Section 4

Environmental Consequences

4.1 General Impacts and Mitigation Measures

4.1.1 General Impacts

Only two alternates are considered for this project, build and no-action. The impacts and mitigation measures for the build alternative are discussed in this section. Impacts of the no-action alternative are also mentioned in this and other sections of the report. In essence, the no-action alternative allows traffic on Blackhawk Road to increase to a point where four lanes will be required through the Blackhawk State Historic Site, an undesirable situation. The no-action alternative also impacts area residents by failing to optimize their work, shopping, entertainment, and other trips because of the lack of a centrally located river crossing.

4.1.2 Short-Term Use and Long-Term Productivity Relationship

The relationship of the Milan Beltway's local short-term impacts and use of resources to the maintenance and enhancement of long-term productivity is positive. Construction of the project will involve the short-term use of resources such as labor and construction materials. The project will also contribute to the maintenance and enhancement of long-term productivity for the communities in the project area and for the regional transportation network by being consistent with local planning (see Section 2.2.5). By improving access within the region and increasing employment in the region, the Milan Beltway Extension project will result in higher gross regional productivity. Transportation improvements are based on regional and local planning which consider the need for present and future traffic requirements within the context of present and future land use development.

4.1.3 Irreversible and Irretrievable Commitments of Resources

Implementation of the preferred alternative involves a commitment of a range of natural, physical, human, and fiscal resources. Land used in the construction of the preferred alternative is considered an irreversible commitment during the time period that the land is used for a highway facility. However, if a greater need arises for use of the land or if the highway facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion will ever be necessary or desirable.

Considerable quantities of fossil fuels, labor, highway, and bridge construction materials such as cement, aggregate, steel, and bituminous material will be expended. Additionally, large amounts of labor and natural resources will be used in the fabrication and preparation of construction materials. These materials are generally not retrievable; however, they are not in short supply and their use will not have an adverse effect upon continued availability of these resources. Any construction will also require a substantial one-time expenditure of state funds which are not retrievable.

The commitment of these resources is based on the concept that residents in the immediate area, region, and state will benefit by the improved quality of the transportation system. These benefits will consist of improved accessibility and safety, savings in time, and greater availability of quality services which are anticipated to outweigh the commitment of these resources.

4.2 Social Impacts

4.2.1 Displacement and Relocation of Residences and Businesses

Five single-family residences along Airport Road will be acquired. One owner-occupied dwelling is located on the south side of Airport Road, west of the Beltway. The four other houses are located on the north side of Airport Road, west of Auto Acres. Two of these houses have been purchased by the State of Illinois. These two houses were purchased in accordance with the Uniform Act because they were hardship acquisitions. The two remaining dwellings are renter-occupied. Figure 4-1 shows the location of residences to be acquired. Comparable decent, safe, and sanitary (DSS) housing is currently available in the project area, and it is expected that comparable DSS housing will be available at the time of displacement.

April 2002 information found on the “Housekeepers” internet site accessed through the Illinois Quad Cities Area Realtor Association, Inc. internet site provided information regarding relocation housing resources. Using the Illinois standard of three times assessed value equals fair market value, approximate values for the three remaining residential units to be acquired were determined. The two renter-occupied homes had a value of $57,400 and the owner-occupied unit was valued at $29,500.

Traditionally the three times assessed value equals fair market value results in values that are less than “true” fair market value. For purposes of this study housing with an asking price of $40,000 to $70,000 was used to identify potential housing resources. The following tabulation contains study results.

Relocation Housing Resources				
	Number of Listings			
Municipality	$40,-$49,900	$50,-$59,900	$60,-$69,900	Total
Milan	1	3	3	7
Moline	2	10	14	26
Rock Island	6	10	7	23
	9	23	24	56

In summary, 56 single-family units in the $40-70,000 price range were on the market in April 2002. Adequate housing appears to be available for the three single-family units still to be acquired.

Along Airport Road, acquisition is scheduled for one business, a gasoline station, located just west of the Beltway and north of Airport Road. A 2.4 hectare (6.0) tract behind the gasoline station contains two buildings and is scheduled for acquisition. Three businesses, a surplus supply company, an auction company, and a less-than-carload trucking company, occupy the two buildings and will be relocated. Open space on the lot is used by a fourth business, new and used tractor-trailer storage.

North of the Rock River six businesses in four buildings will have to be relocated. Four businesses are located on the west side of 3rd Street and include an electronics warehouse, a veterinarian, a medical supply firm, and a cutting machine sales company. A prosthetics firm at 3rd Street and 52nd Avenue has asked the IDOT for acquisition. A body shop on 44th Street may have to be acquired for an access road.

None of displaced businesses are of a type that provide unique, one-of-a-kind services to the neighborhood. All supply goods and services well outside the immediate area. Because of the nature of the businesses and the anticipated median family incomes of the potentially displaced residents (see Section 4.2.2) none of the displacements involve impacts to low-income or minority population.

Commercially zoned land is available in fairly close proximity to all uses. Discussions with city staff in Milan, Moline, and Rock Island identified locations that are possible locations for displaced businesses. In Milan, commercial and light industrial land is available on the existing Milan Beltway, north of the Knoxville Road intersection. A potential location for the truck terminal, surplus storage, and auction operations operation is on the North Frontage Road west of the I-280/Airport Road interchange.

In Rock Island, the body shop could relocate to a site on the west side of 44th Street, south of its present location. Other land is located on the south side of Blackhawk Road between 30th and 38th Streets. Another possibility is the southwest corner of 30th Street and Blackhawk Road which is unincorporated but is commercially zoned.

Relocation activity has started in Moline. The medical supply firm and cutting machine sales company are relocating to Moline's industrial park on 41st Street. The prosthetics firm wants to stay near its present location. Land is available along 52nd Avenue both east and west of 7th Street. Trinity Medical Center has 120 acres available between 60th and 70th Street on the John Deere Expressway. Buildings for sale and/or lease are available ranging in size from 2,500 to over 12,000 sq. ft.

A relocation assistance and payment program is available through the Illinois Department of Transportation to aid those residents and businesses who will be displaced. Observations of the project area revealed that no unique problems will be created for the elderly or handicapped by the project. It is the policy of the Department to ensure that displaced persons receive fair and equitable treatment without discrimination, and that they do not experience undue hardships as a result of a highway project designed for the benefit of the public.

Structures To Be Removed, Figure 4-1

Structures To Be Removed
Figure 4-1

Any person, family, businesses, or farm displaced by this project will be offered relocation assistance services and payments for locating comparable replacement property. The provisions of the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 and the IDOT Land Acquisition Policies and Procedures Manual will be followed for all real property acquisitions and for all displacements of families and businesses of this project. Relocation payments (for moving costs and supplemental housing payments) and advisory assistance are offered in addition to the State's payment for real property. If comparable DSS housing should not be available at the time of acquisition and displacement, the Department is committed to provide for "last resort" housing to provide comparable housing within the financial means of the displaced families.

4.2.2 Environmental Justice

Potential disproportionate impacts to low income and minority populations were evaluated in accordance with Executive Order 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. In response to this Executive Order, the project corridor was evaluated to identify the presence of low income or minority residents and the potential impacts to them.

The communities of Rock Island, Moline and Milan are comprised of a population including minorities and low-income groups. However, based on Census data, discussions with local officials, field observations and the attendance at public meetings (see Section 4.2.3 for meeting dates), no minorities or low-income groups reside within the project area. The IDOT has had ongoing discussion with the residents who live along the project since the April 1991 public hearing. These meetings were held to discuss specific concerns regarding ultimate access to businesses, potential expansion or relocation of adjoining commercial activities, and possible acquisition. Filed observations have continued since the last public hearing during trips to the project corridor by various members of IDOT's staff. ~~Dates and a brief discussion of all public/private owner meetings are found in Appendix D.~~ The IDOT will advertise the availability of the Draft EIS for local review at its offices in Dixon or in area libraries. Therefore, disproportionately high and adverse human health or environmental effects on minority or low-income populations are not anticipated. According to 2000 census data (see Section 2.2.2), the occupants of the five (now three) single family residences are white.

Detailed income data from the 2000 census indicates that residents of the block groups/census tracts affected by the project had incomes well above 2000 poverty thresholds (see Section 2.2.2). The block groups/census tract containing the five residences (now three) proposed for acquisition had a 2000 median household income of $37,188. In that same year the Census Bureau's weighted poverty threshold for a four-person family was $17,603. Based on the 2000 data it is anticipated that no low-income individuals or families will be affected by the proposed project.

4.2.3 Community Values and Changes

There should be no widespread and persistent effects on community life in the project vicinity including neighborhood values, life styles and community bonds. The project is essentially through vacant land on the Rock Island/Moline border and at the east edge of

Milan. The project will not greatly affect existing contact patterns between project area residents. Citizen attitudes expressed at public informational meetings generally centered on potential flooding created by the bridge crossing and impaired access to their particular property.

The project will not directly affect neighborhood cohesion as the project splits no neighborhoods. Residents will not be separated from community facilities as major streets will remain open after completion of the improvement. Direct access to Airport Road in the project area will not be allowed under proposed plans. Rather, frontage roads along Airport Road in the project area will carry residents to and from their homes at a safe location with an adequate setback from the interchange ramps.

Three Public Informational Meetings have been held for this project. The dates of these meetings were:

September 19, 1985
March 29, 1988
April 24, 1991

Two primary concerns were in evidence during the 1985 meeting. One concern was for the welfare of Black Hawk State Historic Site. Citizens were concerned that if this project were not constructed, traffic through the park would continue to increase until a four-lane roadway was required. The second concern was expressed by the Rock River Valley Homeowners Association. They have historically experienced flooding resulting from ice jams at the two bridges upstream of this project. Their concern was that another bridge would compound this problem.

The concern for the Historic Site has been resolved by the Department's commitment to the construction of this project (Milan Beltway Extension) and public commitment that no additional right-of-way would be taken from the site.

The ice jam concern has been alleviated by the proposed bridge design which maximizes span length and minimizes the number of piers in the water. The piers will also be oriented parallel to river current to further minimize the obstruction.

At the 1988 meeting, the public was generally satisfied with the proposed bridge design. Their concerns for ice jams and flooding were no longer in evidence. Several comments were received from businesses that were concerned about access to their property. Each of these concerns was documented and design modifications were made to improve access and satisfy these individuals.

At the 1991 meeting, no significant concerns were expressed. Those attending were in general agreement that the project should proceed as planned.

Members of the Bi-State Regional Commission staff, the city planners in Rock Island and Moline, and the city administrator for the village of Milan were contacted to discuss the proposed project. The following concerns regarding the proposed project were identified:

- Flooding resulting from ice jams caused by the bridge piers.
- Difficulty of westbound traffic reaching Blackhawk Road from the south or east.
- Traffic noise as it may effect residential property near the project.
- Crossing of the old borrow area in Milan on fill rather than using piers. A "fill" crossing may prevent or inhibit access to the east end of the borrow area. Land access to the east end of the borrow area must be maintained along the levee on the south side of the borrow area.

Each of the above four concerns was discussed with Bi-State Regional Commission. They are satisfied with the following responses:

- The location, number, design and configuration of the proposed bridge piers will minimize ice-jam related flooding.
- The proposed Blackhawk Road/John Deere Expressway interchange has been designed to adequately and conveniently accommodate anticipated traffic volumes.
- Noise level and mitigation have been thoroughly addressed in this document.
- Access along the top of the levee, past the proposed Beltway, is being provided.

The IDOT, through public meetings and personal contacts with elected and appointed municipal officials, has provided for full and fair participation by all potentially affected communities in the transportation decision making process.

4.2.4 Public Services and Facilities

Construction of the proposed improvement will have no effect on school districts. Improved access and traffic flow will benefit fire protection, postal routes, public transit, medical facilities, and similar public services. This is primarily due to continuation of local street patterns after the project is complete. Airport Road, Blackhawk Road, and 3rd Street will handle traffic as well after project construction as before.

Emergency facilities will be enhanced somewhat. Since the city of Rock Island is located both north and south of the Rock River, police, fire and ambulance service will be able to utilize the new river crossing for emergency access. The southern portion of the city (south of the Rock River) currently has its own services but backup service will be enhanced.

The proposed river crossing will also provide access for emergency vehicles in the event additional emergency service is required from neighboring municipalities such as Moline. Primary emergency services for both Rock Island and Moline are located north of the river. If backup service is required in southern Rock Island or Milan, the Milan Beltway Extension and river crossing will greatly enhance access.

Also, one fire station is located in the Quad City Airport and another at 16th Street and 46th Avenue (near Southpark Shopping Center) in Moline. The proposed project will provide improved access to areas north of the river in the event multiple backup service is required. The Beltway river crossing would also provide important access in the event of a major airline disaster at the airport.

See Figure 2-3 for the location of public services in the area.

As a fully access-controlled facility, the Milan Beltway Extension was not going to provide any pedestrian or bicycle facilities (See Section 2.4.4). However, recent developments have resulted in provision of a bike lane on the Rock River bridge. (See Section 4.13.4 for a full discussion of the bicycle lane to be provided on the bridge.) Full shoulders are being carried beneath the Beltway on intersecting roads. The proposed facility will not be a barrier to cyclists.

It should be noted that the Rock Island County Metropolitan Mass Transit District has plans to extend future bus service along 1st Avenue/Airport Road to the Milan Beltway. The Milan Beltway/Rock River crossing project provides a public transit corridor between Milan and Rock Island/Moline. The transit district has reviewed the proposed design and plans to use the roadway as proposed.

Recreational facilities, community activity centers, and religious institutions in the area will not be affected by the proposed improvement.

The project will affect the Quad-City Airport. Access to the Airport from Milan, southwest Rock Island, and Southeast Rock Island will improve. Approximately 5.8 hectares (14.4 acres) of land will be needed from the Airport Authority for project right-of-way. Some lights at the Airport Road Interchange will be limited to 7.6 meters (26 ft) to accommodate take-offs and landings. Egress to navigational aids will be maintained.

4.2.5 Special Groups and Interests

An organized group, Friends of Black Hawk Park, is actively opposed to the No-Action Alternative, as this alternative would warrant reconstruction of the John Deere Expressway (Blackhawk Road) to four lanes through the Black Hawk State Historic Site, with previously documented adverse effects upon the Historic Site and the 88-acre Nature Preserve within the Historic Site.

Residents along the Rock River upstream of the project site have stated their opposition to close spacing of the piers in the Rock River. They want to minimize the chances of ice jams on the river with associated flooding problems. This opposition has been allayed by the proposed bridge design which incorporates features specifically proposed to reduce ice jam and flooding potential.

No other social or special interests groups have commented on this project

4.3 Economic Impacts

4.3.1 Businesses and Access

Existing businesses along the proposed route of the Beltway will be directly affected in two ways: (1) by being displaced, or (2) by having their existing access changed. North of the Rock River, six businesses in four buildings are scheduled to be acquired. The buildings house a medical supply firm, a cutting machine sales company, an animal health center, an electronics warehouse, a body shop, and a prosthetics laboratory. Along Airport Road, a

service station and a former truck terminal now occupied by four businesses will be acquired. A total of eleven businesses will be acquired. Commercially or light industrially zoned land is available for relocation in close proximity to all uses.

A number of uses will have their present access changed as a result of the proposed improvement. South of the Rock River, new access roads will be provided on both sides of Airport Road. The new access roads are necessary because access to Airport Road is controlled 580 meters (1,900 ft) east and 580 meters (1,900 ft) west of the center line of the proposed Milan Beltway. On the south side of Airport Road, Frank Street will provide access to a lumber yard, the John Deere Parts Center and residential uses. A new access point and road will furnish access to a siding company, florist, and Sunshine Lane. On the north side of Airport Road, access is provided to single family residences, a trailer sales company, an automobile repair shop, and an auto salvage yard. A second access services a fork lift truck salvage yard, used truck sales and service, and a delivery company warehouse. Customer convenience and safety should be enhanced by the provision of the access roads when compared to the numerous access points on Airport Road currently. The tavern on the south side of Airport Road will be more difficult to reach after the improvement than before. The former truck terminal located behind (north) the gas station is not provided with access. The IDOT has decided to acquire the property.

Access to existing businesses will also change north of the Rock River. The medical office complex and associated businesses on 3rd Street presently have Blackhawk Road as their primary means of access. After the improvement, these uses will be accessed from relocated Blackhawk Road and a relocated 52nd Avenue. Traffic will reach the complex from the south rather than the north. Access to the former bottling company (now a union hall) and former fun center just west of the Beltway/Blackhawk Road interchange will come from 44th Street.

Access to business in the Rock Valley Plaza (Rock Island) will not be changed by this project

4.3.2 New Business

The proposed improvement may lead to growth in the area ant thus increase employment. Representatives of the city of Moline estimate that 202 to 283 hectares (500-700 acres) will be opened for commercial development as a result of the Beltway project and associated street improvements. Over time, existing residential development in Moline Gardens (south of 52ndAvenue and east of the Beltway) will be replaced by commercial use. Rock Island has vacant land available for development west of the project. Most of the land south of Blackhawk Road is planned for commercial and/or office use. Utilities are generally in place to support future commercial development of the area. Local street projects as well as the John Deere Expressway will provide improved access to the area. Major commercial developments have occurred at the southeast corner of the John Deere Expr3essway and 7th Street. Approximately 81 hectares (200 acres) of retail and service uses are projected for southwest Rock Island and Milan as a result of the proposed project.

4.3.3 Employment

Employment in the Quad City area is expected to increase by 33% between 1998 and 2025. Study area employment (see Table 4-1) is projected to grow 62% in the same period.

The proposed improvement will induce growth in the area. An estimated 202 to 283 hectares (500-700 acres) are available for development between 3rd and 16th Streets in Moline. Approximately 20 hectares (50 acres) of undeveloped commercial land are available south of Blackhawk Road between 24th Street and the Rock Island/Moline border. Some 32 hectares (80 acres) could be developed in the vicinity of the Airport Road-Milan Beltway interchange. Table 4-1 illustrates what may happen to employment in the study area by 2025..

Table 4-1
Projected Employment
1998-2025

	Retail		Manufacturing		Other	
	1998	2025	1998	2025	1998	2025
North of Rock River*	1,767	2,305	0	0	914	1,254
South of Rock River**	185	358	110	110	1,857	2,489
Study Area Total***	1,952	3,163	110	110	2,771	3,743

* Traffic Zones 62, 63, 64, 110, 113, 149, 150, 151
** Traffic Zones 70, 72, 73, 227
*** Total of Zones

Source: Bi-State Regional Commission and Stanley Consultants

Employment growth in the areas most influenced by the Beltway project is higher than the metropolitan area as a whole. Increases in retail and "other" employment (services, whole-sale trade, transportation, construction, etc.) are strong. The proposed project strongly influences employment growth on both sides of the Rock River.

In the short-term, approximately 68 employees will be affected by the project construction. Most businesses are expected to reopen. However, several of the displaced businesses may choose not to reopen at a different location. The May 2002 unemployment rate for Rock Island County was 5.4 percent. Employees of any businesses not reopening may, depending on job skills, have some difficulty in finding new employment. In the long term, employment will increase in the general area as vacant land goes into commercial or light industrial use.

Estimates of the number of employees in businesses expected to be acquired or who have asked to be acquired for the construction of the proposed project are tabulated below. These estimates were obtained from personal contact or in one case comparison with the same type of business in the surrounding area.

Business	Employees
Service Station	4
Surplus Material Storage	0
Auction	0
Trucking Company	10
Trailer Sales Storage	0
Veterinarian	4
Electronics Wholesaler	5
Medical Supply	8
Cutting Tools	7
Prosthetics Lab	20
Body Shop	10
Total	68

The total Milan Beltway extension project is estimated to cost approximately $46.2 million with $38.2 million allocated for construction. The construction of the proposed project is expected to create short-term employment. Based on Federal Highway Administration procedures for estimating construction-related employment, the following is anticipated:

On-site Construction (Direct):

Low Estimate: 7.10 Jobs per $1M in Construction Costs = 225 Jobs
High Estimate: 9.75 Jobs per $1M in Construction Costs = 309 Jobs

Off-site Construction (Indirect):

Low Estimate: 9.25 Jobs per $1M in Construction Costs = 293 Jobs
High Estimate: 12.70 Jobs per $1M in Construction Costs = 402 Jobs

The total number of jobs expected to be created by this project is estimated between 518 and 711.

4.3.4 Property Values

The expected influence of the project on property values in the vicinity of the proposed alignment can be divided into short-term and long-term effects. The project is expected to have a temporary or short-term negative influence on property values because of inconvenience associated with the construction process. The prospect of road construction as well as the uncertainty of the timing of construction may also have a temporary negative effect on property values. Over the long-term the project can be expected to have a positive effect on property values as access improves..

4.3.5 Property Tax Revenues

The acquisition of property for the proposed improvement will result in a slight loss of property taxes to units of local government. Based on 1998 assessed valuation of property. Taxing bodies in Blackhawk Township will lose about 0.19 percent, South Rock Township approximately 0.05 percent, and South Moline Township 0.10 percent of their assessed valuation. On a long-term basis, these losses will be offset by increases in assessed valuation and tax revenues from new commercial and light industrial development.

4.4 Future Land Use

The primary direct impact of the proposed project on land use changes in the vicinity is the conversion of farmland to roadway right-of-way as described in Section 4.5.2.

No major corridor land use changes are anticipated south of the Rock River. Most of the land south of Airport Road is owned by the Quad City Airport Authority and is used as a "buffer" between the east-west runway and the developed area west of the Milan Beltway. Future commercial and/or light industrial may develop west of the Beltway between Airport Road and the existing road leading to the John Deere parts warehouse. Development of the area west of the IDOT Maintenance Garage and the area east of the proposed Beltway Extension for industrial/commercial purposes is possible. Land use is not expected to change between I-280 and the Rock River. Figure 4-2 shows expected future land use in the project area.

The area east of the Beltway and north of Airport Road (south of the Rock River) will be permanently converted to wetland for mitigation.

The land east of the Beltway and south of Airport Road is owned by the Quad City Airport and is proposed for future runway and facilities development regardless of whether the Beltway is constructed or not. Land west of the Beltway may be privately developed if property owners are amenable. Access could only be provided by a frontage road off of the Beltway with Department approval.

North of the Rock River, corridor land use is expected to change as vacant land undergoes development. Trinity Medical Center is expected to add clinics and a hotel at the southwest corner

Future Land Use, Figure 4-2

Future Land Use
Figure 4-2

of the John Deere Expressway and 7th Street. Commercial development is expected from Blackhawk Road south to approximately 52nd Avenue. This commercial development will extend to 16th Street in Moline, and act as another major traffic generator in the Route 5 corridor. While vacant land is available south of 52nd Avenue, it lies within the 100-year floodplain of the Rock River and cannot be developed. The bluffs above Blackhawk Road are anticipated to develop for single- and multi-family uses.

The area being lost to the John Deere Expressway/52nd Avenue interchange is presently primarily farmland. This area would probably develop as commercial or light industrial with a No-Action Alternative.

The southern portions of land (south of 52nd Avenue) on the north side of the Rock River would probably not be developed as they are mostly within the 100-year floodplain. Farming may be the highest ultimate use for these areas.

In addition to the loss of the six businesses (in four buildings), further commercial or light industrial development will be prevented with the construction of this project. No additional property along 3rd Street will be available. Little property is available for development on the east side of 3rd Street.

The project will impact a narrow 9.7 meter (32 ft) parcel of city-owned land originally intended to be used as access to Blackhawk Road when the land was privately-owned. The narrow strip was conveyed to the city with other lands to be developed as Ben Williamson Park. In correspondence dated July 10, 1998 (see Appendix D), the director of the parks and recreation has certified that this strip of land is not part of any recreational activity of the park, but instead serves only as an unused parcel for park access. This proposed project will not alter that function. The project will acquire approximately 2025 square meters (0.50 acre) of that parcel for an access road. Access will still be allowed (via the roadway) to 44th Street and thence IL 5 by utilizing the remainder of this strip for potential construction of an access road by the park and recreation department. Figure 4-3 shows the proposed acquisition. Since receipt of the July 10, 1998, letter, the new access road from 44th Street to the former Flynn property will be moved approximately 200 feet north of the location shown on Figure 4-3. This shifting of the road creates no problem for the Rock Island Parks and Recreation Department.

Improved access, resulting from the construction of this project, to businesses along Airport Road (particularly those west of the Beltway) may make commercial development more attractive to potential developers.

Construction of this project is expected to make commercial development along major roadways south of the project more attractive. Access to 78th Avenue/Indian Bluff Road, Knoxville Road, and the southern portions of the Milan Beltway will be greatly enhanced. Traffic originating north of the Rock River can reach these areas with very little travel time..

Proposed Acquisition of Excess Land - Ben Williamson Park, Figure 4-3

Proposed Acquisition of Excess Land - Ben Williamson Park
Figure 4-3

4.5 Impacts on Agriculture

4.5.1 Introduction

This project has been reviewed in accordance with the Cooperative Working Agreement between the Illinois Department of Agriculture and Illinois Department of Transportation. Under the Cooperative Working Agreement of September 1982, the Illinois Departments of Transportation and Agriculture agree to coordinate the development of all transportation projects requiring the acquisition of more than 1.2 hectares (3 acres) per mile of Class I, II, or III farmland. This proposed improvement does require the acquisition of more than 1.2 hectares (3 acres) per mile of Class I, II, or III farmland. However, this project is exempt from the stipulations of further coordination since the project is within a municipality and/or within 2.4 kilometers (1.5 miles) of the ~~Bi-State Regional Commission's~~ official planning area of Milan and Colona/Coal Valley. This project is similarly exempt from coordination requirements with the United States Natural Resource Conservation Service.

4.5.2 Impacts on Agricultural Operations

Approximately 54.4 hectares (134.4 acres), of crop land and farmed wetland (see Table 4-8) will be acquired for the proposed project. About half of this land is currently in agricultural use. The project has been located to minimize disruption of present cultivation operations. Examination of land ownerships and proposed right-of-way revealed that all remaining agricultural lands will have adequate access and farming operations can continue with minimal interruption.

Farmland parcels are shown in Figure 4-4. Each of the parcels will be impacted to some degree by the proposed project.

Parcel A is presently accessed from the south and west. Inhibiting or preventing access to this parcel from the Beltway will not impact this parcel. The existing access into the John Deere Warehouse facility is being relocated to the south but access to the entire parcel will be maintained. No plans to develop this parcel are known.

Parcel B appears to be farmed through accesses off the Beltway and from the south. The "Levee Maintenance Access" off of Airport Road may also be used. This parcel is on Quad City Airport property and will be used for future expansions planned for that facility. Also, the northwest corner of this parcel will be lost to accommodate the Airport Road Interchange. Access in the future will not be permitted from either the Beltway or Airport Road. It may be possible to utilize the frontage road access opposite the John Deere entrance road. Access to this parcel from the east is prevented by Case Creek. ~~Also, the area enclosed within the proposed Airport Road interchange is being considered for wetland creation for mitigation.~~

Access to Parcel C will be unaffected by the project. A small portion of the parcel will be lost to the proposed project. Access to this parcel is from Sunshine Lane which will be maintained

Farmland Access, Figure 4-4

Farmland Access
Figure 4-4

Parcel D will become "landlocked" by the proposed project. Access will be prohibited on all four sides; proposed Beltway on the west, I-280 on the north, Case Creek on the east and Airport Road on the south. For this reason, this parcel has been purchased by the Department as a potential ~~borrow area and~~ wetland mitigation site (see Figure 4-6). This site is located north of Airport Road and outside of the Airport's Runway Protection Zone.

Much of Parcel E will be lost to the proposed Beltway. A very narrow band of farmland will remain along the west side of this parcel. This narrow band could still be accessed from 44th Street but will probably not be economically tenable. The Department will acquire the land west of the proposed project. The east side of this parcel (that remaining) can be accessed from the east.

The southern half of Parcel F and all of Parcel H will be unaffected by the proposed Beltway and 52nd Avenue improvements. The northern portion of Parcel F will be lost. Access to these two parcels will have to come off of 7th Street on the east side as access off of 52nd Avenue will be prohibited. No plans to develop Parcels E, F or H are known. The southern portion of each of these parcels is marginal farmland within the 100 year floodplain. Permitting and zoning constraints will probably prevent their development. Portions of Parcels E and F are being proposed for wetland mitigation (see Figure 4-7).

Parcel G will be entirely lost to the proposed project.

4.5.3 Soil Types

Table 4-2 is a summary of soil types the preferred project would cross. Figure 4-5 shows the location of soil types in relation to the proposed project.

Corridor soils and the relatively flat topography are expected to cause few problems with erosion during construction. As seen in Table 4-2 the majority of soils are classified as "slight" in terms of erodibility.

Soil Types, Figure 4-5

Soil Types
Figure 4-5

Table 4-2
Corridor Soil Types

Designation	Name	Erodibility
107	Sawmill Silty Clay Loam	Slight
107W	Sawmill Silty Clay Loam, Wet	Slight
428	Coffeen Silt Loam	Slight
415	Orion Silt Loam	Slight
718	Marsh	Unassigned
945F	Hickory - High Gap Silt Loams, 18-30% Slopes	Moderate
455	Mixed Alluvial Land	Slight
82	Millington Silt Loam	Slight
87A	Dickinson Sandy Loam, 0-4% Slopes	Slight/Moderate
83	Wabash Silty Clay	Unknown
88B	Sparta Sand, 0-6% Slopes	Slight
C.F.L	Cut and Fill Land	Unassigned
430A	Raddle Silt Loam, 0-2% Slopes	Unknown
430B	Raddle Silt Loam, 0-4% Slopes	Unknown
465	Montgomery Silty Clay Loam	Unknown
763A	Joslin Silt Loam, 0-2% Slopes	Slight
763B	Joslin Silt Loam, 2-6% Slopes	Slight
74	Radford Silt Loam	Slight
W76	Otter Silt Loam, Wet	Slight
76	Otter Silt Loam	Slight

Source: Soil Survey of Rock Island County, Illinois, USDA, October 1977.

4.5.4 Borrow Areas

Approximately 765,000 cubic meters (1,000,000 cubic yards) of fill material will be needed for the proposed project. Borrow will be contractor provided, and have to meet state, federal, and local standards.

4.6 Impacts on Cultural Resources

The cultural resource reconnaissance carried out for this project indicated nine archaeological sites in the project corridor. No standing structures were located which individually or collectively qualified as eligible for inclusion in the National Register of Historic Places.

The Illinois Archaeological Survey deemed the following five sites cleared for construction based upon the initial field survey: 11-Ri-36, 11-Ri-184, 11-Ri-424, 11-Ri-425 and 11-Ri-512. These

remaining four sites required additional individual archaeological testing prior to construction: 11-Ri-81, 11-Ri-212, 11-Ri-380 and 11-Ri-381.

All of the sites (with the exception of 11-Ri-81 which is a village site) are low density lithic scatters containing primarily Moline chert debris. No ceramics were recovered. 11-Ri-81 potentially represented the most important of the nine sites. This is the location of the Saukenauk Village which was established by the Sauk Indians in the late 1700's and occupied intermittently through the early 1800's.

A Phase II Archaeological Investigation of these remaining four sites was carried out 1989-1990. Based upon the Archaeological Survey Short Report prepared for this project, the State Historic Preservation Officer concurred on July 2, 1990, that this project's construction will have no significant cultural impact (see Appendix B).

4.7 Geological Setting

4.7.1 Bedrock and Structural Geology

The bridge piers may be set in bedrock. This action is not anticipated to adversely impact the underlying bedrock.

4.7.2 Surface Geology and Topography

Impacts to surface geologic materials will include excavation, grading, and filling over the near-surface deposits during construction. Changes in hydraulic conductivity and erosional resistance is expected as surface materials are disturbed. Hydraulic conductivity will be decreased through soil compaction. Erosional resistance will be decreased through soil disturbance and disruption of cover vegetation. Erosional resistance will be restored through appropriate revegetation and grading.

4.7.3 Mineral Resources

There are no active mines within the project corridor. The project will require crushed rock and other fill materials. These materials are readily available from nearby commercial sources.

4.7.4 Landslides

The project will pass over unstable earth materials. The project design will include appropriate measures to prevent landslides/slumps from adversely affecting the new roadway.

4.8 Air Quality

4.8.1 Introduction

The air quality analysis of this project was prepared in accordance with procedures contained in the Illinois Department of Transportation (IDOT) Air Quality Manual, dated May 1982. These procedures were adopted as standard after coordination with the Illinois Environmental Protection Agency, Division of Air Pollution Control, and the Federal Highway Administration, Illinois Division Office. The analysis is consistent with the latest mobile source emission factors issued by the U.S. Environmental Protection Agency known as

MOBILE 5a and Conformity Regulations dated November 11, 1993, (40 CFR Part 93) "Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans, Programs, and Projects Funded or Approved Under Title 23 U.S.C. or the Federal Transit Act". The CAL3QHC (version 2) model, (USEPA, 1992) is the air quality model used in this analysis..

4.8.2 Carbon Monoxide Analysis

4.8.2.1 "Worse Case" Location Determination. As specified in the IDOT Air Quality Manual, carbon monoxide concentrations were calculated for a "Worst Case" site for the years 2001 (Current year), 2005 (Time of Completion), 2015 (Time of Completion Plus 10), and 2020 (time of completion plus 15 or the design year). A "Worst-Case" receptor is defined theoretically as a location nearest the roadway segment with the highest traffic volumes and lowest average speeds on the project route and nearest to a high volume crossroad.

Using IDOT methodology, two locations were initially tested for being the "Worst Case" at sensitive receptors. RES 1 is located on the south end of Milan Beltway near the Airport Road interchange having the second highest traffic volumes. A second site, RES 2, is located north of the main interchange off Blackhawk Road near the highest volume of traffic flow. The initial analysis indicated that the location at RES 2, north of the Blackhawk Road interchange, was the "Worst Case" and the other location was eliminated from further analysis (see Figure 4-9 for receptor locations).

4.8.2.2 Eight-Hour Carbon Monoxide Concentrations. The concentrations for the "Worst Case" provided in Table 4-3 indicate that the National Ambient Air Quality Standards (NAAQS) will not be exceeded for carbon monoxide for either the Build or the No-Build Alternatives. The 8-hour primary standard for CO is 9.0 parts per million (ppm).

Table 4-3
8-Hour Carbon Monoxide Concentration (ppm) for
Worse Case Location – At Milan Beltway

Year	No-Build Alternative (Values ppm)	Build Alternative (Values in ppm)
2001	2.6	--
Time of Completion (2005)	2.6	3.1
Time of Completion +10 (2015)	2.8	3.8
Time of Completion +15 (2020)	2.8	3.8

Source: Stanley Consultants, Inc.

4.8.2.3 One-Hour Carbon Monoxide Concentrations. The detailed analysis of local carbon monoxide levels has focused on the eight-hour standards, since this standard has

almost without exception been found to be more critical than the one-hour standard. Analysis of available statewide air quality data, published annually by the Illinois Environmental Protection Agency, indicates that excursions above the one-hour primary standard of 35.0 ppm are extremely rare even at sites which annually record excursions of the eight-hour primary standard of 9.0 ppm. Modeling of the one-hour standard indicate concentrations less than 20 percent of the one-hour primary standard.

4.8.3 Conformity

No portion of this project is within a designated nonattainment area for any of the air pollutants for which the USEPA has established standards. Accordingly, a conformity determination under 40 CFR Part 93 ("Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Funded or Approved Under Title 23 USC or the Federal Transit Act") is not required.

4.8.4 Modeling Results

Modeling results are found in the report "Air and Noise Modeling Results, Milan Beltway Extension FAU Route 5822, April 2000." This report is available at IDOT's Dixon, Illinois Office.

4.9 Water Resources/Water Quality Impacts

4.9.1 Surface Water Impacts

Water quality impacts to the Rock River will be primarily those associated with the construction of bridge piers in or near the river. Eight concrete bridge piers will be constructed within coffer dams. The installation of these coffer dams will cause temporary impairment of water quality as silt in the riverbed is resuspended in the water column. This temporary impact will have minimal affect on water quality downstream of the crossing because of the relatively slack water evident through this reach of the Rock River. Resuspended silt will resettle quickly. An additional discussion of impacts during bridge construction is found in Section 4.14.3.

Water quality impacts on the flooded borrow area will be greater crossing on fill rather than using a bridge crossing. The fill alternative will consume a much larger area of this particular surface water's resource than the bridge crossing. The width of the fill at the water's surface will be approximately 67 meters (220 ft). The bridge alternative will consume only that area required by the bridge piers. A crossing on fill will require direct deposition of fill material into the borrow area, which will temporarily create turbid water conditions. The bridge would create substantially less turbidity with the construction of piers only.

This old borrow pond (labeled L-1 on Figure 2-9) has been determined not to be "Waters of the United States" by the U.S. Army Corps of Engineers. The proposed alternate will impact 1.20 hectares (2.97 acres) of this wetland with the placement of fill for the roadway. The primary importance of this wetland includes flood storage and wildlife habitat. This wetland will be severed by the roadway construction. The remainder of the borrow pond will provide the same functions as those being impacted, although there will be a loss in area. Since the proposed project will require borrow, an additional borrow area(s) will be created, thereby

replacing the functions lost at the existing borrow area. Section 4.14.3 discusses impacts during construction of the borrow pond crossing.

Investigations revealed that undesirable materials are located in the old borrow area. The impacted area of the old borrow pond will be filled by placement of rip rap directly into the water. The water in this area will simply be displaced. As water will not be pumped out, no contaminated water will be pumped to the Rock River.

The intermittent drainageway north of the Rock River will be relocated a maximum of 50 meters (160 ft) from the east to the west side of the Milan Beltway Extension because of culvert design constraints at the 52nd Avenue Interchange. The relocation will rejoin the existing drainageway approximately 335 meters (1100 ft) downstream from its present location. Less than 0.2 hectares (0.5 acre) will be involved in the relocation. Water emanating from this drainageway and discharging into the Rock River will be of relatively low quality during construction. This is a minor, short-term impact.

The relocation of the intermittent drainageway will result in the loss of riparian vegetation along its length. This vegetation is of rather low quality and includes small shrubs and trees scattered in with common herbaceous plant species. The total length of the relocated drainageway will be approximately equal to the existing. Similar common plant species can be expected to invade the new drainageway by creating "edge" habitat which is common in the project area (see Section 2).

An erosion and sediment control plan will be employed during construction to minimize runoff impacts from roadway construction near the river. Silt fences, erosion bales, sheeting, and erosion mats are examples of measures to be incorporated into the erosion control plan.

A relatively minor but long-term impact will be experienced from stormwater runoff from the traveled roadway and bridge deck. Typical roadway pollutants, such as particulates, oil and grease, and metals, will enter the Rock River and borrow pond after storm events. The proposed roadway lies in an urban environment, therefore, the existing pollutant load is higher than rural lands. The amount of additional roadway pollutants is not expected to impair the existing water quality of the Rock River and the borrow pond because of dilution and dispersion with relatively large waterbodies. In addition, the roadway embankments will be vegetated to help capture and filter roadway pollutants.

The Department currently applies salt at a rate of 113 kilograms (250 pounds) per lane mile per winter storm event. Approximately 1,588 kilograms (3,500 pounds) of salt will be applied to the Milan Beltway Extension including all ramps, Airport Road, and 52nd Avenue per winter storm event. To assess chloride contamination of the Rock River, a "worst case" scenario was developed using United States Geological Survey methodology for deicing chemicals.

1. Deicing salt applied at a rate of 340 kilograms (750 pounds) per lane mile per application (three times higher than under normal conditions).

2. The drainage area of the Rock River upstream of the project site is 25,900 square kilometers (10,000 square miles).
3. The project contains 22.5 lane kilometers (14 lane miles) of highway and streets.
4. The Rock River would have a low flow rate of 800 cfs.

Using the above criteria the increase in chloride concentration, under these "worst case" conditions, would only be .0067 mg/l with the existing level being 49.4 mg/l. The general use surface water standard is 500 mg/l and the drinking water standard is 250 mg/l Therefore, the potential impact is negligible.

In 1991, an assessment of water quality was conducted by the Illinois Environmental Protection Agency at the confluence of the Rock River and Mill Creek, approximately 1.25 miles downstream from the proposed project. Causes of impaired river uses were identified as nutrients (slight), suspended solids (slight), other habitat alterations (slight), and flow alteration (slight). Salinity/total dissolved solids/chlorides were not identified as causes of impaired uses. Highway run-off is not expected to be a water quality issue.

4.9.2 Permits

The following water based permits are expected to be required for this project.

- Section 404 - The project will require the discharge of dredged and/or fill materials into the Rock River. An individual Section 404 permit will be required from the US Army Corps of Engineers. Both the US Army Corps of Engineers and the US Environmental Protection Agency have been requested to be cooperating agencies for this project.• Section 401 Water Quality Certification - The project requires a water quality certification from the Illinois Environmental Protection Agency (IEPA).
- Section 402 National Pollutant Discharge Elimination System (NPDES) - This project will result in the disturbance of ~~two or~~ more than 0.4 hectares (51 acres) of total land area. Accordingly, it is subject to the requirement for a NPDES permit for stormwater discharges from construction sites. Permit coverage for the project will be obtained either under the IEPA General Permit for Stormwater Discharges from Construction Site Activities (NPDES Permit No. ILR10) or under an individual NPDES permit. Requirements applicable to such a permit will be followed, including the preparation of a Stormwater Pollution Prevention Plan. Such a plan shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges from the construction site and shall describe and ensure the implementation of practices which will be used to reduce the pollutants in discharges associated with construction site activity and to assure compliance with the terms of the permit.
- ~~Bridge Permit - A bridge permit for the Rock River crossing will be required from the US Army Corps of Engineers.~~
- Construction in Floodways of Rivers, Lakes, and Streams - This permit is obtained from the Illinois Department of Natural Resources, Office of Water Resources for construction in the floodway of identified streams serving a tributary area of 259 hectares (640 acres) or more (urban) or 2590 hectares (6400 acres) or more (rural).

- Regulation of Public Waters - This permit is obtained from the Illinois Department of Natural Resources, Office of Water Resources for construction in those rivers, lakes, streams, and waterways considered public waters.
- ~~Supplemental Waste Stream Permit - This permit is obtained from the Illinois Environmental Protection Agency to allow a disposal facility to accept special waste generated by project involvement.~~
- ~~Resource Conservation and Recovery Act (RCRA) Permit - This permit is obtained from the Illinois Environmental Protection Agency for any project involvement with hazardous wastes for which the Department will conduct remedial activities.~~
- Underground Storage Tank (UST) Permit - This permit is obtained from the Office of the State Fire Marshal for removing any underground storage tank.

4.9.3 Groundwater Impacts

Neither alternative is expected to have significant impacts on the groundwater resource or on wells in or near the project area. Localized groundwater near the surface may experience some increases in constituent concentrations from the completed roadway. However, because of the positive surface drainage, very little roadway runoff enters the groundwater. Since the calculated chloride and other constituents implied impact to surface water is negligible (see Section 4.9.1, Surface Water Impacts), the impact to groundwater would also be negligible.

Based on the Illinois State Water Survey and field investigation, there are two wells less than 61 meters (200 ft) from the proposed roadways. United Parcel Service (UPS) has a registered 76.2 meter (250 ft) industrial/commercial well. An access road is planned to be constructed along the west side of the UPS property; and Airport Road improved along the south side of the UPS property. UPS reportedly obtains its drinking water from the village of Milan. A second well is located on the property for the northernmost house along Sunshine Lane. This property adjoins a proposed access lane. The well is approximately 18 meters (60 ft) from the proposed access lane and is approximately 39 meters (130 ft) deep. The Milan and Moline municipalities do not have any community supply wells near the project; they get their water from the Mississippi River.

Although there are private wells within 61 meters (200 feet) of the centerline this threshold is only revelant for routes and sources of groundwater pollution. Since the project will not introduce any new routes (dry wells or borrow pits) or sources (bulk road oil or deicing salt storage facilities) within 61 meters (200 feet) then there will be no violation of the wellhead setback regulations of the Illinois Groundwater Protection Act.

Studies summarized in Highway Research Board Report 91, “Effects of Deicing Salts on Water Quality and Biota” concluded that 12 meters (40 ft) is the minimum distance to a well to prevent long-term contamination potential. All adjoining houses and domestic supply wells are greater than 12 meters (40 ft) away from proposed pavement. In addition, the water supply wells in the area are finished in the limestone/dolomite bedrock, ranging in depth from 4.6 to 91 meters (15 to 300 ft) below the surface. The proposed action is not expected to cause a violation of the groundwater quality standards, including the chloride standard of 200 mg/l (chloride is a principal constituent of deicing salts).

The project is located in a groundwater recharge area with a high rating, but in an area that is only rated as moderate for the potential contamination of shallow aquifers. In addition, the project is not located within a regulated recharge area.

Construction of additional impervious pavement may reduce groundwater recharge. However, the new roadway surfaces are a small fraction of the recharge area (less than one percent) and the reduction in groundwater recharge is expected to be negligible.

Section 1424(e) of the Safe Drinking Water Act requires that proposed actions which may affect designated "principal or sole-source aquifers" be coordinated with the United States Environmental Protection Agency. No areas in Illinois have been designated as principal or sole-source aquifers; therefore, these requirements of the Safe Drinking Water Act are not applicable to this project.

Improperly sealed abandoned wells that tapped into the aquifers would be the only other situation that could allow contamination of the groundwater. Standard construction procedures require that any abandoned well encountered will be plugged to avoid such impacts.

4.9.4 Floodplain Analysis

Work in the floodplain south of the Rock River consists of the placement of nearly 99,400 cubic meters (130,000 cubic yards) of granular fill, gravel, and dirt in the borrow pond. Ten bridge piers and two abutments will be located in the floodplain. North of the river, approximately 165,000 cubic meters (215,665 cubic yards) of fill will be deposited within the 100-year floodplain to accommodate the 52nd Avenue interchange. Of the total fill, approximately 65,545 cubic meters (81,800 cubic yards) will be deposited below the 100-year flood elevation of 571. Floodplain encroachments are generally cross or transverse to the river's flow.

A hydraulic report was prepared for the Rock River crossing and is on file with the Illinois Department of Transportation. The hydraulic analysis showed that the proposed bridge would cause minimal hydraulic disturbance to the stream by producing only an approximate .03 meter (0.10 ft) rise in water levels for both the 50- and 100-year floods. Approximately 10.8 hectares (26.7 acres) of the Rock River floodplain will be devoted to project right-of-way.

The FHWA recognizes the National Flood Insurance Program standard that provides for up to a 0.3 meter (1 ft) increase in flood stages when designating a floodway. This standard is established as the federal standard under Executive Order 11988, "Floodplain Management", issued on May 24, 1977 (23 CFR 650, subpart A). As the computed rise in backwater is less than the 0.3 meter (1.0 ft) standard, this project will have no significant floodplain impact.

The concerns for ice jams and flooding voiced by upstream residents have been thoroughly addressed. The bridge design minimizes this potential and these residents now appear to be satisfied as evidenced by their comments at the public informational meetings. However, ice jam problems still exist for the two upstream bridges at 27th Street and I-94. Periodically during

spring ice breakup, ice piles up against the bridges creating a dam and corresponding upstream flooding.

Placing fill in the borrow pond and construction of the bridge in the regulated floodway will require a permit from the Illinois Department of Natural Resources, Office of Water Resources. As a result there will be no significant adverse impacts on natural and beneficial floodplain values; there will be no significant changes in flood risks; and there will be no significant increase in potential for interruption or termination of emergency service or emergency evacuation routes; therefore it has been determined that this encroachment is not significant.

4.9.4.1 Only Practicable Alternative Finding. Based on the above considerations, in accordance with Executive Order 11988, Floodplain Management, and the Water Resources Council guidelines for implementing the Executive order, it has been determined that the preferred alternative will result in a base floodplain encroachment, but is the only practicable alternative.

4.9.5 Wetlands

4.9.5.1 Primary Impacts. The proposed alternate will permanently impact by fill or ditching 9.03 hectares (22.31 acres) of wetlands (see Table 4-4 and Figure 2-9). These wetlands are classified as Floodplain Forest (Forested Palustrine), Wet Meadow (Palustrine Emergent), Wet Shrubland/Wet Meadow (Scrub-shrub Palustrine/Palustrine Emergent), and Farmed Wetland. The impacts at each wetland site, which will be caused by the proposed alternate, are shown in Table 4-4. It is assumed that those areas within the proposed construction area will have permanent impacts.

Areas outside the construction limits, but within the proposed right-of-way, may have temporary impacts during construction. A maximum of 1.40 hectares (3.46 acres) of wetlands could receive temporary impacts.

The No-Build Alternate is the only alternate that avoids any wetland impacts. However, this alternate does not meet the project's purpose and need. Therefore, these wetland impacts are unavoidable. This project corridor is the only feasible corridor which meets the project's purpose and need. Both termini have been determined, so the river crossing would have to be within this corridor. All of the alternatives studied for this project created wetland impacts. The chosen alternative was chosen to minimize forested wetland impacts, and does have the least amount of wetland impacts of all of the build alternatives.

Several measures have been taken to minimize wetland impacts and harm to the remaining wetlands. The highway foreslopes will be at 6:1 within the clear zone, per policy. However, beyond the clear zone, the foreslopes will be decreased to 3:1. In areas that have greater than 9.1 meters (30 ft) of fill, the foreslopes will be decreased to 2:1 beyond the clear zone. This will greatly decrease the width of fill required for the highway and the amount of fill placed in adjacent wetlands.

The proposed bridge will be extended about 106 m (347.8 ft) to the north beyond the north bank of the river. This will bridge several of the wetlands and the floodplain north of the river and eliminate the need for fill placement into these wetlands. Thus, the impacts to adjacent wetlands have been minimized.

The probable adverse effects on the wetlands were analyzed by using the observations of the INHS wetland delineators. Their report described the functions of each wetland. They also assigned a Floristic Quality Index Value to each wetland site. This index is a functional rating of a wetland's quality with respect to community integrity and species diversity. These characteristics are summarized in Table 2-5 in Section 2.

The proposed alternate will permanently fill about 2.25 hectares (5.55 acres) of forested palustrine wetlands or floodplain forest (Table 4-4). Another 1.05 hectares (2.61 acres) of floodplain forest may be temporarily impacted during construction.

These temporary impact areas will be replanted after construction. Most of this wetland class occurs along the Rock River in the floodplain. It also occurs along a stream north of the river, along some drainage ditches in agricultural fields, and on the island. The primary functions of these forested palustrine wetlands include flood water storage, a water purification zone, and average to good wildlife habitat (see Table 2-4). The Floristic Quality Index (FQI) for these sites ranges from 9.5 to 19.2, which indicates moderate natural quality. This wetland type will be impacted by filling, ditching, and vegetation removal. Part of this area will be bridged and be impacted by the placement of piers and vegetation removal. While the remaining forested palustrine wetlands will provide the same functions as those being impacted, there will still be a loss of wetlands and their functions. The remaining wetlands will also be fragmented more than they are already fragmented.

The palustrine emergent wetland or wet meadow will have 0.14 hectares (0.34 acres) impacted by the construction of the preferred alternate (Table 4-4). Approximately 0.08 hectares (0.19 acres) will receive temporary impacts during construction. This wetland is on the island. The primary functions of this palustrine emergent wetland include flood water storage, and fair to poor quality wildlife habitat. The FQI value for this area is 1.4 (Table 2-5) which indicates low natural quality. It also has a 33 Percent Adventive Value indicating a predominantly non-native plant species community. This wetland type will be impacted by the placement of piers for the bridge and shading from the bridge. Therefore, most of this area will not receive fill and will still perform most of its functions. These temporary impacted areas will be reseeded with wetland herbaceous species.

Table 4-4
Wetland Impacts on the Milan Beltway
(Based on May 1997 Survey)

Wetland # on Aerial	Wetland Type	Proposed Work in Each Wetland	Approximate Total Area Hectares (Acres)		Permanent Impacted Area Hectares (Acres)		Temporary Impacted Area Hectares (Acres)		Percent of Area Impacted
F-1	Farmed Wetland	Fill	0.98	(2.41)	0.10	(0.24)	0.01	(0.02)	10.8%
F-2	Farmed Wetland	Fill	2.23	(5.51)	0.06	(0.15)	-0-		2.7%
F-4	Farmed Wetland	Fill	1.48	(3.67)	1.06	(2.62)	0.08	(0.20)	76.8%
F-5	Farmed Wetland	Fill	0.32	(0.78)	0.28	(0.68)	-0-		87.2%
F-7	Farmed Wetland	Fill	0.63	(1.55)	0.63	(1.55)	-0-		100%
F-9	Farmed Wetland	Fill	4.18	(10.33)	0.97	(2.41)	-0-		23.3%
F-13	Farmed Wetland	Fill	5.67	(14.01)	1.32	(3.25)	-0-		23.2%
F-14	Farmed Wetland	Fill	1.11	(2.75)	0.14	(0.34)	-0-		12.4%
Total Farmed Wetland			**16.60**	**(46.01)**	**4.55**	**(11.24)**	**0.09**	**(0.22)**	**27.9%**
F-8	Forested (NRCS) Wetland	Fill	0.14	(0.36)	0.14	(0.36)	-0-		100%
F-10	Forested (NRCS) Wetland	Fill	1.29	(3.20)	0.17	(0.43)	-0-		13.4%
F-16	Forested (NRCS) Wetland	Fill	7.61	(18.81)	0.04	(0.09)	-0-		0.5%
W-1	Floodplain Forest	Vegetation Removed	2.82	(6.98)	0.17	(0.42)	0.09	(0.23)	9.3%
W-3	Floodplain Forest	Vegetation Removed	17.09	(42.24)	0.87	(2.16)	0.26	(0.64)	6.6%
W-8	Floodplain Forest	Fill	2.14	(5.28)	0.83	(2.06)	0.59	(1.45)	66.5%
W-9	Floodplain Forest	Fill	4.18	(10.33)	0.04	(0.11)	0.09	(0.23)	3.3%
W-11	Floodplain Forest	Fill	0.84	(2.07)	0.01	(0.01)	0.02	(0.06)	3.4%
Total Floodplain Forest			**36.11**	**(89.27)**	**2.25**	**(5.55)**	**1.05**	**(2.61)**	**9.9%**

Table 4-4
Wetland Impacts on the Milan Beltway
(Based on May 1997 Survey) (continued)

Wetland # on Aerial	Wetland Type	Proposed Work in Each Wetland	Approximate Total Area Hectares (Acres)		Permanent Impacted Area Hectares (Acres)		Temporary Impacted Area Hectares (Acres)		Percent of Area Impacted
W-2	Wet Meadow	Vegetation Removed	0.39	(0.97)	0.14	(0.34)	0.08	(0.19)	54.6%
W-4	Wet Shrubland/ Wet Meadow	Fill & Veg. Removed	11.97	(29.57)	2.10	(5.18)	0.18	(0.44)	19.0%
Total			**65.07**	**(165.82)**	**9.03**	**(22.31)**	**1.40**	**(3.46)**	**15.5%**

* Note: Totals may not match exactly because of rounding.

Source: Illinois Department of Transportation

About 2.10 hectares (5.18 acres) of the scrub-shrub and palustrine emergent wetland will receive permanent impacts (Table 4-4). About 0.18 hectares (0.44 acres) may be temporarily impacted during construction. This wet shrubland and wet meadow area is located north of the Rock River and its adjoining floodplain forest. The main functions of this wetland are for water storage, a water purification zone from nearby agricultural runoff, and fair quality wildlife habitat. This wetland has an FQI of 12.7 (Table 2-5), indicating moderate natural quality. This site has a 23 percent Adventive Value which indicates that it contains more exotic species. This wetland type will be impacted by filling, ditching, and vegetation removal. The remaining wetlands will provide the same functions as those being impacted, but there will be a loss of this type of wetland.

About 4.55 hectares (11.24 acres) of farmed wetlands will receive permanent impacts (Table 4-4). About 0.09 hectares (0.22 acres) will be temporarily impacted during construction. The farmed wetland areas are scattered throughout the project study corridor. The primary function of these wetlands is for flood water storage. These areas also provide poor quality wildlife habitat. These areas are dominated by non-native species, which are the planted crops, thus their Percent Adventive Value is 100 percent. These wetlands will be impacted by placement of fill or ditching. The remaining farmed wetlands will provide the same functions as those being impacted, but there will be a loss of this type of wetland.

The wetlands affected by the proposed alternative are scattered throughout the project corridor (See Figure 2-9). Some of these wetland areas will be severed. This fragmentation will have an impact on the habitat for some wildlife species, and impact the functions of the entire ecosystem of the area. The proposed project will remove part of the wildlife habitat which consists of trees, shrubs, herbaceous vegetation, cropland, and water. Fishery habitat will also be impacted by fill placement in the borrow pond and the removal of streamside vegetation overhanging the Rock River. Culverts will be

installed to carry water from all streams and ditches and in the borrow area. Therefore, surface flow of the streams, ditches, and borrow area will remain the same and not be impacted by construction. Tree removal along the river banks will be minimized as much as possible in the project corridor. Therefore, the impact to fishery habitat will be minimized.

The existing flood water storage capacity of the area will have a small decrease in relation to the flood storage capacity of the entire wetland area to remain. This will be mitigated by the creation of wetland compensation sites north of the river and in the project corridor. The shoreline anchoring functional value of the affected wetlands will be replaced by the drainage structures themselves and other necessary erosion control measures. Therefore, no net loss of shoreline anchoring will occur.

The proposed alternate will impact palustrine emergent and forested palustrine wetlands which also provide a water purification zone. This functional value is also served to a similar level by the highway's open drainage ditch system. The effectiveness of the open drainage ditch to provide this function is partially dependent upon the type and amount of vegetation that is present. The effectiveness increases with the amount of wetland vegetation that is present. Therefore, at least part of this function will be maintained by the highway ditch system which will be planted to grass.

Short-term impacts to the wetlands from the proposed project will include vegetation removal, soil compaction, increased erosion and turbidity, and introduction of pollutants from construction activities. Long-term impacts include placement of permanent fill in wetlands, ditching and draining other wetlands, roadway runoff, noise, and physical impacts caused by motorist use and highway maintenance activities. Construction of the preferred alternate and the Rock River bridge will require instream work. This will cause short-term sedimentation and turbidity to occur. Standard erosion control measures will be implemented during project construction. Therefore, no long-term adverse impacts to the water quality and biological components of the Rock River will occur.

4.9.5.2 Secondary/Cumulative Impacts. Cumulative impacts are defined as those impacts contributing to wetland resource loss in the project area in the past, the present and the foreseeable future. Ideally, a cumulative impact analysis should be based on individual watersheds. The analysis of wetland impacts is limited to the area covered by the Milan National Wetland Quadrangle. The area within this quadrangle is mostly urban (cities of Rock Island, South Moline and Milan) and cropland.

Approximately 5.2 percent of the total land within the Milan Quadrangle contains wetlands (733.7 hectares or 1813 acres). Most of these wetlands are associated with the Rock and Mississippi River floodplains. Palustrine forested wetlands make up 48 percent of the wetlands (see Table 4-5). Losses over the years are attributable to the damming of the Rock River, agricultural conversion, residential and urban development, and the construction of transportation (airport and interstates) systems.

Table 4-5 Acreages of Paulstrine Wetlands By Wetland Class, Milan Wetland Inventory Quadrangle, Rock Island County, Illinois

Palustrine Wetland Class	Area Hectares (Acres)		Percent of Class
Aquatic Bed (PAB)	0.4	(1)	0
Emergent (PEM)	200.7	(496)	27
Forested (PFO)	352.9	(872)	48
Scrub shrub (PSS)	75.3	(186)	10
Unconsolidated Bottom (PUB)	103.6	(256)	14
Unconsolidated Shore (PUS)	0.8	(2)	0
Totals	**733.7**	**(1813)**	**99**

Source: Illinois Department of Transportation

Most of the remaining significant wetlands within the quadrangle occur in the area where the Rock River joins the Mississippi River. These areas are mostly in public ownership. The area within the quadrangle has remained rather stable over the last twenty years. We conclude that cumulative wetland losses within this quadrangle have not been significant over the last twenty years, and will not be significant in the foreseeable future.

Secondary impacts are those environmental impacts that will result from reasonably foreseeable related actions which accompany or occur after completion of a highway project. The project area is composed of three major cover types; Cropland, Urban Land and Wetlands which represent 33 percent, 31 percent and 25 percent of the project area, respectively. Development in the project area has been occurring on the north side of the Rock River. Figure 2-4 (Existing Land Use) depicts agricultural land as being the predominant land use in the project corridor. Figure 4-2 (Future Land Use) depicts institutional and industrial land use types displacing agricultural land use. This would include the loss of 16.88 hectares (41.71 acres) of farmed wetlands. We conclude that development is likely, but the project will not cause secondary adverse impacts to the wetlands resource base of the area.

4.9.6 Wetland Compensation

A Conceptual Wetland Compensation Plan (see Appendix A) has been prepared for the project based on the Illinois Department of Transportation Wetlands Action Plan (April 15, 1998), the Interagency Wetland Policy Act of 1989, and the "Implementing Procedures for the Interagency Wetland Policy Act" (17 Ill. Adm. Code 1090). The coordination of wetland resources has occurred through a number of venues such as scoping, a previously circulated Wetland Technical Report, 404/NEPA Merger process and District Bi-Monthly Coordination Meetings.

The impacted wetlands will be mitigated according to the Wetland Compensation Plan. Both the U. S. Army Corps of Engineers and the Illinois Department of Natural Resources have

concurred with the conceptual mitigation plan at the April 16, 1997 District Bi-Monthly Meeting. ~~(See Appendix D).~~ All wetland areas which are temporarily impacted during construction will be restored to their original wetland characteristics or a higher quality. Three potential mitigation sites are being studied for compensation for impacts created by this project. Two of these locations are within the study corridor and one is outside the corridor, but within the Rock River Basin. The final choice of mitigation sites will be dependent upon concurrence with the U.S. Army Corps of Engineers and the Illinois Department of Natural Resources.

The impacts and compensation required for each wetland are shown in Table 4-6. The compensation ratios used are those specified in the final adopted rules for implementing the Illinois Interagency Wetland Policy Act which was effective May 6, 1996. The compensation ratios range from 1.0 to 1 to 2.5 to 1 for on-site compensation, and 1.5 to 1 to 4.0 to 1 for off-site compensation. Also, as part of the mitigation, 5.9 hectares (14.6 acres) of farmed wetlands in the project corridor will be restored. This wetland restoration will ecologically improve these areas by taking the land out of crop production and planting hydrophytic species. The final design and special provisions will be described in the Wetland Compensation Plan (as summarized below) and included in the 404 Permit Application, which will be submitted to the U.S. Army Corps of Engineers.

As compensation for wetland loses, IDOT is proposing three potential wetland mitigation sites. These sites are referred to as the Milan, Rock Island, and Green Rock Sites. The Milan Site (Figure 4-6), located south of the river and adjacent to the project is approximately 8.07 hectares (19.95 acres) in size. The Rock Island Site (Figure 4-7) is also adjacent to the project, but north of the river. It is about 4.49 hectares (11.05 acres) in total size. The Green Rock Site (Figure 4-8), which is off-site and about 12.9 kilometers (8 miles) east of the project, will also be utilized. This site is about 16.73 hectares (41.26 acres) in size. IDOT proposes full credit (1:1) for restoration or creation of wetlands on prior converted and upland farmland and partial credit will be claimed for the following: restoration of wetlands on farmed wetlands (0.75:1), preservation of existing wetlands (0.5:1), and buffer (0.25:1).

The Milan Site was purchased in 1995. In the Spring of 1997 the site was seeded with a cover crop for erosion control. Also, in 1997 the field pumps were turned off and the former hydrology was allowed to return to the site. Gradually over the years this site has undergone natural regeneration with herbaceous hydrophytic species. There are also wetland tree species revegetating the southern portion of the site. This site has become a Wet Meadow type of wetland. Therefore, little if any excavation or additional planting will be required at this site. Monitoring by the Illinois Natural History Survey and the Illinois State Geological Survey along with coordination with the US Army Corps of Engineers will determine if additional improvements to the site are necessary.

The created or restored sites will be planted with tree species to create or restore forested wetlands (as described in the Conceptual Wetland Compensation Plan in Appendix A). Some grading may be required on some of the sites. It is anticipated that only 0.2 to 0.3 meter (0.5 to 1.0 ft) of topsoil would need to be excavated in some areas to create wetlands.

Milan Mitigation Site, Figure 4-6

Milan Mitigation Site
Figure 4-6

Rock Island Mitigation Site, Figure 4-7

Rock Island Mitigation Site
Figure 4-7

Green Rock Mitigation Site, Figure 4-8

Green Rock Mitigation Site
Figure 4-8

Table 4-6 Wetland Compensation

Wetland # on Aerial	Wetland Type	Permanent Impacts Hectares (Acres)		Compensation - Permanent Impacts						Temporary Impact Hectares (Acres)		Compensation - Temporary Impacts					
				On-Site			Off-Site					On-Site			Off-Site		
				Ratio	Hectares (Acres		Ratio	Hectares (Acres)				Ratio	Hectares (Acres)		Ratio	Hectares (Acres)	
F-1	**Farmed Wetland**	**0.10**	**(0.24)**	1.5:1	0.15	(0.36)	**2.0:1***	**0.20**	**(0.48)***	**0.01**	**(0.02)**	**1.0:1***	**0.01**	**(0.02)***	1.51:1	0.02	(0.03)
F-2	**Farmed Wetland**	**0.06**	**(0.15)**	1.5:1	0.09	(0.22)	**2.0:1***	**0.12**	**(0.30)***	**-0-**		-	-		-	-	
F-4	**Farmed Wetland**	**1.06**	**(2.62)**	**2.5:1***	**2.65**	**(6.55)***	4.0:1	4.24	(10.48)	**0.08**	**(0.20)**	**1.0:1***	**0.08**	**(0.20)***	1.5:1	0.12	(0.30)
F-5	**Farmed Wetland**	**0.28**	**(0.68)**	**1.5:1***	**0.42**	**(1.02)***	2.0:1	0.56	(1.36)	**-0-**		-	-		-	-	
F-7	**Farmed Wetland**	**0.63**	**(1.55)**	**1.5:1***	**0.94**	**(2.32)***	2.0:1	1.26	(3.10)	**-0-**		-	-		-	-	
F-9	**Farmed Wetland**	**0.97**	**(2.41)**	2.5:1	2.45	(6.02)	**4.0:1***	**3.92**	**(9.64)***	**-0-**		-	-		-	-	
F-13	**Farmed Wetland**	**1.32**	**(3.25)**	**2.5:1***	**3.30**	**(8.13)***	4.0:1	5.28	(13.00)	**-0-**		-	-		-	-	
F-14	**Farmed Wetland**	**0.14**	**(0.34)**	1.5:1	0.21	(0.51)	**2.0:1***	**0.28**	**(0.68)***	**-0-**		-	-		-	-	
Total Farmed Wetland		**4.55**	**(11.24)**	**-**	**7.31**	**(18.02)***	**-**	**4.52**	**(11.10)***	**0.09**	**(0.22)**	**-**	**0.09**	**(0.22)**	**-**	**-0-**	
F8	**Forested (NRCS) Wetland**	**0.14**	**(0.36)**	1.5:1	0.21	(0.54)	**2.0:1***	**0.29**	**(0.72)***	**-0-**		-	-		-	-	
F-10	**Forested (NRCS) Wetland**	**0.17**	**(0.43)**	1.5:1	0.26	(0.64)	**2.0:1***	**0.34**	**(0.86)***	**-0-**		-	-		-	-	
F-16	**Forested (NRCS) Wetland**	**0.04**	**(0.09)**	1.5:1	0.06	(0.14)	**2.0:1***	**0.08**	**(0.18)***	**-0-**		-	-		-		

Table 4-6

Wetland Compensation (continued)

Wetland # on Aerial	Wetland Type	Permanent Impacts Hectares (Acres)		Compensation - Permanent Impacts						Temporary Impact Hectares (Acres)		Compensation - Temporary Impacts					
				On-Site			Off-Site					On-Site			Off-Site		
				Ratio	Hectares (Acres)		Ratio	Hectares (Acres)				Ratio	Hectares (Acres)		Ratio	Hectares (Acres)	
W-1	**Floodplain Forest**	**0.17**	**(0.42)**	**1.5:1***	**0.25**	**(0.63)***	2.0:1	0.34	(0.84)	**0.09**	**(0.23)**	**1.5:1***	**0.14**	**(0.34)***	1.5:1	0.14	(0.34)
W-3	**Floodplain Forest**	**0.87**	**(2.16)**	**2.5:1***	**2.18**	**(5.40)***	4.0:1	3.50	(8.64)	**0.26**	**(0.64)**	**1.5:1***	**0.39**	**(0.96)***	2.0:1	0.52	(1.28)
W-8	**Floodplain Forest**	**0.83**	**(2.06)**	2.5:1	2.08	(5.15)	**4.0:1***	**3.32**	**(8.24)***	**0.59**	**(1.45)**	**1.5:1***	**0.88**	**(2.18)***	2.0:1	1.18	(2.90)
W-9	**Floodplain Forest**	**0.04**	**(0.11)**	1.5:1	0.06	(0.16)	**2.0:1***	**0.08**	**(0.22)***	**0.09**	**(0.23)**	**1.5:1***	**0.14**	**(0.34)***	1.5:1	0.14	(0.34)
W-11	**Floodplain Forest**	**0.01**	**(0.01)**	1.5:1	0.02	(0.02)	**2.0:1***	**0.02**	**(0.02)***	**0.02**	**(0.06)**	**1.5:1***	**0.03**	**(0.09)***	1.5:1	0.03	(0.09)
Total Floodplain Forest		**2.25**	**(5.55)**		**2.43**	**(6.03)***		**4.13**	**(10.24)***	**1.05**	**(2.61)**		**1.58**	**(3.91)**		**-0-**	
W-2	**Wet Meadow**	**0.14**	**(0.34)**	**1.5:1***	**0.18**	**(0.44)***	2.0:1	0.24	(0.58)	**0.08**	**(0.19)**	**1.0:1***	**0.08**	**(0.19)***	1.5:1	0.12	(0.28)
W-4	**Wet Shrubland/ Wet Meadow**	**2.10**	**(5.18)**	2.5:1	5.05	(12.45)	**4.0:1***	**8.08**	**(19.92)***	**0.18**	**(0.44)**	**1.0:1***	**0.18**	**(0.44)***	1.5:1	0.27	(0.66)
Total		**9.03**	**(22.31)**		20.52	(50.70)		32.15	(79.44)	1.40	(3.46)		1.93	(4.76)		2.52	(6.22)
Total Chosen Compensation Acreage					**9.91**	**(24.49)***		**16.73**	**(41.26)**				**1.93**	**(4.76)***		**-0-**	

***Chosen Compensation Acreage and Ratio for each wetland site impacted**

**** Note: Totals may not match exactly because of rounding.**

Source: Illinois Department of Transportation

The conceptual plan (as summarized in Table 4-7) proposes to restore 3.94 hectares (9.74 acres), create 3.81 hectares (9.41 acres), and preserve 0.32 hectares (0.8 acres) of marsh at the Milan Site. Therefore, about 6.92 hectares (17.11 acres) of replacement wetland credit would be generated at the Milan Site. At the Rock Island Site, 1.96 hectares (4.83 acres) of farmed wetland will be restored, 1.65 hectares (4.06 acres) of upland will be used to create wetlands, 0.76 hectare (1.87 acres) of forested wetlands will be preserved, and 0.12 hectare (0.29 acre) of upland farmland will be planted to forested buffer. Therefore, the total amount of replacement wetland (credits) for this site would be about 3.51 hectares (8.68 acres).

Table 4-7 Summary of Compensation for Wetland Losses

		Actual			Credit		
Site	**Area No.**	**Hectares**	**(Acres)**	**Proposed Mitigation**	**Credit Ratio**	**Hectares**	**(Acres)**
Milan	U-1	3.81	(9.41)	Create	1:1	3.81	(9.41)
	F-13(a)	2.86	(7.07)	Restore	0.75:1	2.14	(5.30)
	F-13(b)	0.32	(0.80)	Preserve	0.5:1	0.16	(0.40)
	F-14	1.08	(2.67)	Restore	0.75:1	0.81	(2.00)
Site Total		**8.07**	**(19.95)**			**6.92**	**(17.11)**
Rock Island	U-1(a)	0.57	(1.40)	Create	1:1	0.57	(1.40)
	U-1(b)	0.07	(0.17)	Create	1:1	0.07	(0.17)
	U-1(c)	0.95	(2.34)	Create	1:1	0.95	(2.34)
	U-7(a)	0.06	(0.15)	Create	1:1	0.06	(0.15)
	F-1(a)	0.37	(0.91)	Restore	0.75:1	0.28	(0.68)
	F-1(b)	0.67	(1.65)	Restore	0.75:1	0.50	(1.24)
	F-2(a)	0.92	(2.27)	Restore	0.75:1	0.67	(1.70)
	W-8(a)	0.64	(1.57)	Preserve	0.5:1	0.32	(0.78)
	W-4(a)	0.12	(0.30)	Preserve	0.5:1	0.06	(0.15)
	U-1(d)	0.12	(0.29)	Buffer	0.25:1	0.03	(0.07)
Site Total		**4.49**	**(11.05)**			**3.51**	**(8.68)**
Temporary Impact Area Total	**In Place**	**1.40**	**(3.46)**	**Restore**	**1:1**	**1.40**	**(3.46)**
Green Rock	GR-3	9.15	(22.60)	Create	1:1	9.15	(22.60)
	GR-4	7.58	(18.66)	Create	1:1	7.58	(18.66)
Site Total		**16.73**	**(41.26)**			**16.73**	**(41.26)**
Total		**30.69**	**(75.72)**			**28.56**	**(70.51)**

* Note: Totals may not match exactly because of rounding.

Source: Illinois Department of Transportation

The Green Rock Site which is prior converted farmland will be restored to forested wetlands to make up the balance of the required mitigation. This will require 16.73 hectares (41.26 acres) of land to provide an equal amount of replacement wetlands (credits) at a 1:1 ratio.

Therefore, we are providing for "no net loss" by creating more hectares of wetlands than the amount impacted. In addition, former wetlands will be restored and existing wetlands will be preserved. For every acre of wetland filled, the District will create or restore at least 1.5 acres of replacement wetlands. To meet the Illinois Act, this project will add additional acres of creation, restoration, or preservation of wetlands. In summary, this project will permanently impact a total of 9.03 hectares (22.31 acres) of wetlands, and temporarily impact 1.40 hectares (3.46 acres) of wetlands. As compensation, the District will create 22.2 hectares (54.7 acres) of prior converted or upland cropland; restore 5.9 hectares (14.6 acres) of farmed wetland; restore 1.40 hectares (3.46 acres) of temporarily impacted wetlands; preserve 1.08 hectares (2.67 acres) of existing forested wetlands, and plant 0.12 hectare (0.29 acre) of forested buffer. Thus, by providing a total of 30.69 hectares (75.72 acres) of mitigation, this project will produce 28.56 hectares (70.51 acres) of replacement wetlands (or credits) after application of the compensation ratios.

After construction, the sites will be monitored by the Illinois State Geological Survey and Illinois Natural History Survey (INHS) for five years beginning with the first growing season. Each year the Surveys will monitor the sites for attainment of the established performance standards and will prepare a report that discusses the progress of the wetland sites.

These sites will be considered a success if by the end of five years: (1) There is a predominance of hydrophytic vegetation; (2) There is a presence of hydric soils or the conditions are favorable for hydric soil formation; and (3) There is a presence of wetland hydrology. At least 50% of the planted trees should be established and living by the end of the five year period. At least 50% of the trees present should be non-weedy, native perennial species. None of the three most dominant tree species may be non-native or weedy.

4.9.6.1 Only Practicable Alternative Finding. Based on the above considerations, in accordance with Executive Order 11990, Protection of Wetlands, it is determined that there is no practicable alternative to the proposed construction in wetlands, the preferred alternative includes all practicable measures to minimize harm to wetlands that may result from such use.

4.10 Impacts to Ecological Resources

4.10.1 Introduction

The relationship between highways and wildlife resources is complex because a highway may affect wildlife in several different ways. The most obvious effect of highways on wildlife is the elimination of habitat for some species and the creation of habitat for others. Also, the habitat to be occupied by new pavement is lost to wildlife, while species composition may change within the area occupied by the other portions of the highway right-of-way. Based upon studies conducted in the United States of highway/wildlife

relationships, the effects of highways on wildlife are: (1) loss of habitat for some species and creation of habitat for others; (2) creation of barriers to wildlife movement; (3) creation of new movement corridors and invasion routes for wildlife; (4) an increase in animal mortality; and (5) fragmentation of habitat.

4.10.2 Vegetation/Habitat Impacts

Table 4-8 shows the acreages of the various cover types to be removed by the proposed alignment. As shown in the table, the largest acreage to be required from any cover type for the proposed project will be cropland (upland), followed by the commercial/urban cover type and then farmed wetland. Relatively small amounts of the other cover types will also be required. As acreage from these cover types is lost, so will the habitat for species that use these cover types be lost. Consequently, a decrease in population size of these species will occur in the area.

Table 4-8 Habitat Conversion

Cover Type	Site On Aerial	Total* Area of Habitat Conversion Hectares (Acres)		Hectares (Acres) of Cover Type Changed To Pavement		Grass Right-of-Way		WetlandMitigation (& Restoration)	
Cropland (Upland or prior converted)	U-1	43.85	(108.30)	4.00	(9.89)	14.29	(35.31)	22.13	(54.58)
Farmed Wetland	F-1, F-2, F-4, F-5, F-7, F-9, F-13, F-14	10.54	(26.03)	1.42	(3.50)	3.22	(7.96)	5.90	(14.57)
Floodplain Forest	W-1, W-3, W-8, W-9, W-11, F-8, F-10, F-16	4.39	(10.86)	1.08	(2.66)	2.26	(5.59)	1.05	(2.61)
Upland Woodland/Trees	U-2, U-7	3.31	(8.17)	0.74	(1.82)	2.51	(6.20)	0.06	(0.15)
Wet Meadow	W-2	0.29	(0.71)	0.10	(0.25)	0.11	(0.27)	0.08	(0.19)
Wet Shrubland/Meadow	W-4	2.28	(5.62)	1.09	(2.70)	1.01	(2.48)	0.18	(0.44)
Borrow Pond	L-1	1.20	(2.97)	0.46	(1.13)	0.74	(1.84)	0	0
Commercial/Urban and Mowed Lawns/Grass	U-3	13.42	(33.16)	5.73	(14.16)	7.69	(19.00)	0	0
Old Roadbed (to be relocated)		0.71	(1.76)	0.00	0.00	0.71	(1.76)	0.00	0.00
Total		79.99	(197.61)	14.62	(36.11)	32.54	(80.41)	29.40	(72.54)

* Note: total includes wetland mitigation areas.

** Note: Totals may not match exactly because of rounding.

Source: Illinois Department of Transportation and Stanley Consultants

A large proportion of the acreage required for the project, including cropland, will be converted to pavement and grassed right-of-way (See Table 4-8). Some of this grassed

right-of-way will be landscaped with trees and shrubs if space permits. Most of this grassed right-of-way occurs in narrow strips along the traffic lanes. Therefore, it would not provide suitable habitat for species requiring large unbroken tracts of habitat. However, it would provide habitat for those species with small habitat requirements such as mice, shrews, and voles. It would also support bird populations of species such as red-winged blackbirds and meadowlarks. At the present time, there is only a small amount of grassland cover type in the project corridor. This is located in the lawns of businesses. This grassland habitat will be greatly increased in the project corridor.

Another large acreage will be converted from predominantly upland or prior converted farmland habitats to wetland habitats at the various mitigation sites. This will actually improve wildlife habitat in these areas. Most of the existing areas were cropland consisting of a monoculture. The wetland mitigation sites will have a diversity of plant species and also provide a source of water, which are important elements of wildlife habitat.

Fragmentation can be defined as the breaking up of large tracts of land into smaller tracts. Fragmented cover types, for example forest tracts, are of less value to certain forest bird and mammal species. Some species require large tracts of a specific cover type to be able to establish in the area. Some species such as the pileated woodpecker and the prothonotary warbler require a fairly large area of contiguous forested habitat to establish a breeding area. Species such as these could be displaced when roadway construction and other developments fragment the floodplain forest along the Rock River. The direct loss of floodplain forest, competition from other species, induced predation or parasitism may prevent neo-tropical migrant birds from successfully reproducing. Table 4-9 shows the individual patches of forest in the project study corridor and the acreage impacted. With the exception of three areas, most of the forested patches will not be fragmented by this proposed project. Rather, portions will be removed from the edge of the existing forests. The three forested areas which will be fragmented are floodplain forests, W-1, W-3, and F-10. Area W-3 is the largest forested area in the proposed project which will be fragmented. Although fragmentation is often a concern in major highway projects, especially those on new alignment, it is of less concern with this proposed project because the remaining habitat types have already been badly fragmented. Ben Williamson Park immediately to the west of this project has further fragmented the floodplain forest with the construction of a parking lot. Several commercial buildings, including a new medical complex, have also fragmented the original habitat. The largest cover type is cropland which has already caused the fragmentation of the other cover types. As described in Section 2, signs of existing fragmentation of the area is evident by the absence of the pileated woodpecker and prothonotary warbler and the arrival of the brown-headed cowbird.

Table 4-9 Forest Fragmentation

Cover Type	Site # on Aerial	Total Size		Area Impacted		Area(s) Remaining	
		Hectares	Acres	Hectares	Acres	Hectares	Acres
Floodplain Forest	W-1	2.82	6.97	0.26	0.64	a) 1.40 b) 1.16	3.46 2.87
Floodplain Forest	W-3	17.09	42.21	1.13	2.79	a) 8.28 b) 7.68	20.45 18.97
Floodplain Forest	W-8	2.14	5.29	1.42	3.51	0.72	1.78
Floodplain Forest	W-9	4.18	10.32	0.13	0.32	4.05	10.00
Floodplain Forest	W-11	0.84	2.07	0.03	0.07	0.81	2.00
Floodplain Forest	F-8	0.14	0.35	0.14	0.35	0.00	0.00
Floodplain Forest	F-10	1.29	3.19	0.17	0.42	a) 1.04 b) 0.08	2.57 0.20
Floodplain Forest	F-16	7.61	18.80	0.04	0.10	7.57	18.70
Upland Woodland/Trees	U-2	2.34	5.78	1.90	4.69	0.44	1.09
Upland Woodland/Trees	U-7	1.34	3.31	1.34	3.31	0.00	0.00
Total		**39.79**	**98.28**	**6.56**	**16.20**	**33.23**	**82.08**

* Note: Total may not match exactly because of rounding.

Source: Illinois Department of Transportation

The largest stand of forest in the project corridor (Site # W-3) occurs along the north bank of the Rock River. The preferred alternate will cross the river on a different alignment than the other alternates. All of the alternates must cross the Rock River to meet the project's purpose and need for action and therefore will impact this floodplain forest. The preferred alternate will decrease the acreage of floodplain forest to be impacted by 1.5 hectares (3.8 acres), which will lessen the impacts to this cover type. As previously stated, this floodplain forest tract has already been fragmented by a continually increasing number of commercial establishments and residences both up and downstream from the proposed project crossing. All of the other forested areas have been previously fragmented by other activities. The wetland mitigation sites which are proposed for north of the river, will actually lessen this forest fragmentation. These sites will be developed into forested wetlands which will eventually form a more continuous forested area along the river.

During the winter of 2001-2002, the Illinois Department of Transportation prematurely removed an estimated 17 to 20 trees within the alignment of the anticipated preferred alternative. Dominant tree species consisted largely of box elder (Acer negundo) and silver maple (A. Saccharinum). The area has a large population of reed canary grass (Phalaris arundinacea) and has not been identified to have any significant natural quality.

The clearing occurred in a 0.81-hectare (2.0 acre) area along the south bank of the Rock River (Sites #W-1 and #U-2) to allow for construction of embankment for the south bridge approach and give the embankment time to settle, prior to construction of the approach pavement. This, coupled with concerns expressed by the Illinois Department of Natural Resources (IDNR) that tree removal occur in the winter in order to minimize impacts during bird breeding seasons, prompted IDOT to incorrectly assume this tree removal could begin prior to the completion of this EIS..

4.10.3 Wildlife Impacts

Highways can become barriers to wildlife movement. Studies have shown that small forest mammals, such as red and gray squirrels, are reluctant to venture onto road surfaces where the distance between forest margins exceeded 18 meters (60 ft.). However, wider roads are crossed by medium-sized mammals, such as opossums, raccoons, and skunks. Highways sometimes can interfere with the movement of large game animals such as deer. A large portion of the floodplain forest will be bridged by the Rock River bridge. This will also allow wildlife to cross safely under the roadway.

Clearing and construction activities will directly and indirectly affect animals which reside or wander within the proposed right-of-way. Some small, slow-moving species (e.g., mice, shrews, and voles) could be killed by heavy machinery. Habitat destruction will cause a reduction in available food, cover, and nesting sites.

Long-term habitat changes would permanently reduce the ability of the proposed right-of-way to support some species while increasing it for others. For example, a linear clearing in the floodplain forest may reduce habitat for forest-dwelling animals while increasing habitat for species which prefer edge habitat and grassland habitat.

Another direct effect of highways on wildlife is the annual loss of animals that results from vehicle-animal collisions. Studies have been conducted in an attempt to determine situations that contribute to wildlife mortality. Most of the mortality information for mammals has concentrated on large game animals such as deer. The subject of large game animals and their relationship to highway corridors has received considerable attention in the past because vehicle/deer collisions not only involve the animals being killed or maimed, but often result in damage to vehicles and sometimes personal injury or death to the vehicle occupants. Studies have shown that when highways cross through areas of deer cover, deer will occur on or near the road in large numbers and thus will frequently be killed by vehicles. Since the proposed project crosses through the floodplain forest along the Rock River which is suitable deer habitat, it is probable that there will be deer/auto collisions in that vicinity of the project. The bridge over the floodplain forest will allow deer to cross under the roadway and hopefully reduce deer/auto collisions.

Other studies have concluded that the estimates of highway mortality are probably not biologically significant for most species. This is because a relatively small proportion of the ranges of most wildlife species are affected by highways.

4.10.4 Endangered and Threatened Species Impacts

4.10.4.1 Federally-listed Species. As previously stated in Section 2.9.3.1, the U. S. Fish and Wildlife Service lists several species of federally-endangered or threatened species for Rock Island County. Surveys were conducted for these species by the INHS and it was concluded that there is no suitable habitat for any of these species in the project area. Therefore, the proposed project will not jeopardize the existence of any federally-listed species.

4.10.4.2 State-listed Species. As previously stated in Section 2.9.3.2, the Illinois Endangered Species Protection Board lists a number of state-listed species as occurring in Rock Island County. The INHS was directed to conduct several surveys for these species. They concluded that there is no suitable habitat for any of these species in the project area. Appropriate measures to control siltation will be used, which should prevent adverse effects on mussel and fish species downstream from the project. Therefore, the proposed project will not jeopardize the existence of any state-listed species. The IDNR has closed consultation on threatened and endangered species (see page D-~~81~~95 in Appendix D).

4.10.5 Ecological Resources Mitigation

The following measures to minimize harm to the ecological resources and mitigate those impacted have been determined to be practicable and will be implemented:

1. Tree removal for the project will be conducted between August 30 and April 1 to avoid impacting neo-tropical migratory birds during their nesting season as requested by IDNR (See September 29, 1997 NEPA/404 Minutes in Appendix D).
2. As stated in the IDOT Policy Guidelines, all trees removed from the project area (an estimated 16.02 acres, maximum) for construction or maintenance purposes will be replaced with deciduous tree species which are native to the District 2 area as part of the overall landscape and wetland compensation plans for project. Trees will be replaced according to the IDOT Departmental Policy LEN-14 (August 1, 1990). The wetland compensation for this project will plant approximately 8946 trees in the three mitigation sites. This is more replacement trees than required by Policy. Some additional trees will also be planted along the new roadway for aesthetics as determined by the District 2 Landscape Architect.
3. According to IDOT Procedure Memorandum 99-34 and Operations Policy 5-1800, all unmowed areas in the proposed project limits will be seeded with native prairie species (Seeding Class 4) as part of the overall landscape plan for the project.
4. Strict erosion control measures will be implemented as part of the overall project plan to ensure protection of aquatic species present in the area (as requested by IDNR).

4.10.6 Natural Areas and Nature Preserves Impacts

The "no-build" alternative of the proposed project would not redirect traffic from IL 5 and would thus eventually warrant roadway improvements of Blackhawk Road through Black Hawk State Historic Site. Therefore, the "no-build" alternative could potentially impact these natural areas. The build alternate will direct enough traffic from IL 5 across the Rock River to southwest Rock Island and Milan negating the expansion of IL 5 through Black Hawk Historic Site.

4.11 Noise

4.11.1 Predicted Traffic Noise Levels

Traffic noise levels along Airport Road, Blackhawk Road and the Milan Beltway were projected for existing traffic conditions and for traffic conditions associated with the Build and No-Build Alternatives to determine any changes in noise levels at sensitive receptors such as commercial establishments, residences, hospitals, and parks. Modeling results are found in the report "Air and Noise Modeling Results, Milan Beltway Extension FAU Route 5822, July 2000." This report is available at IDOT's Dixon, Illinois Office.

The FHWA traffic noise model, TNM1.0, was used to predict current and future noise levels at sensitive receptors adjacent to the highway. The FHWA model arrives at predicted sound levels through a series of adjustments to the reference energy mean emission level. The actual value of these adjustments depends on impact data concerning type of vehicle, number of vehicles, vehicle speeds, receptor distance from traffic and absorptive ground covers between traffic lanes and receptors.

Noise modeling was conducted for existing year and build year traffic volumes. Traffic volumes for the existing year represent preconstruction conditions and were calculated from available traffic counts on the highway sections being considered. The build year projections represent design year traffic conditions.

Vehicle traffic was proportioned into the following vehicle categories based on estimated percentages provided by IDOT: automobile, 88-98%; light-duty truck, 1.5-5%; and heavy-duty truck, 0.5-7% depending on the roadway section modeled. Design hour traffic volumes were used in the analysis as provided by IDOT. Vehicle speeds are based upon expected operating speeds of the roads and design speed limits.

The total project length was subdivided into twenty-seven highway sections determined from traffic volumes and road orientation. Table 4-10 lists the characteristics of each highway section and estimated traffic speed and traffic volumes for current year-1996, build design year-2020, and no-action-2020.

Four receptors were chosen as representative of the residences and businesses along the route. These receptors are shown on Figure 4-9. Many of the receptors represent residences or businesses with similar characteristics and distances from traffic lanes. For example, Receptor RES2 represents 6 residences along Blackhawk Road that are single-family

dwellings set back approximately 21.3 meters (70 ft) from the centerline of the highway. Table 4-11 lists the location of each receptor relative to the proposed highway modification and the characteristics of each receptor. No shielding factors were used in the noise modeling.

Table 4-10
Characteristics of Modeled Road Segments
Milan Beltway Extension

Segment	Land Use	Vehicle Speed (mph)	Current Maximum Hourly Traffic Volume			2020 No-Build Maximum Traffic Volume			2020 Build Maximum Traffic Volume		
			Auto	Light Duty Truck	Heavy Duty Truck	Auto	Light Duty Truck	Heavy Duty Truck	Auto	Light Duty Truck	Heavy Duty Truck
1	Agricultural	45	874	18	18	1611	34	34	4342	88	88
2	Agricultural	45	874	18	18	1611	34	34	4464	93	93
3	Agricultural	30							435	14	21
4	Commercial	30							392	22	31
5	Agricultural	50	874	18	18	1611	34	34	3586	75	75
6	Agricultural	25							504	16	25
8	Commercial	30							611	16	23
9	Ag/Wetland	55							4733	99	99
10	Agricultural	45							696	19	26
11	Agricultural	35							851	23	32
12	Agricultural	35							978	26	36
13	Agricultural	55							4152	87	87
14	Agricultural	45							884	24	33
15	Agricultural	45							5054	105	105
16	Commercial	45	869	23	9	978	25	10	946	25	10
17	Commercial	45	869	23	9	978	25	10	946	25	10
18	Agricultural	45	1216	31	13	2243	58	23	936	21	10
19	Agricultural	45	1216	32	13	2243	58	23	869	23	9
20	Residential	35	2755	86	29	5078	159	53	3878	121	40
21	Agricultural	35							3499	109	36
22	Agricultural	35							2066	43	21
23	Agricultural	35							706	11	4
24	Agricultural	35							725	11	4
25	Residential	35	2755	86	29	5078	159	53	671	10	3
26	Commercial	25							118	2	1
27	Agricultural	55							3186	49	49
28	Agricultural	55							4152	64	64

Source: Stanley Consultants

Table 4-11
Characteristics of Modeled Receptors
Milan Beltway Extension

Receptor Number	Type	Number of Units Represented	Distance From Centerline meters (ft)	Surface	Proposed Distance From Centerline meters (ft)
RES1	Residential	8	142 (465)	Grass	142 (465)
COMM1	Commercial	4	226 (740)	Grass	107 (350)
RES2	Residential	6	21 (70)	Grass	99 (325)
HOSP1	Hospital	1	732 (2400)	Grass	732 (2400)

Source: Stanley Consultants

4.11.2 Analysis of Results

The results of the noise modeling are contained in the technical report in IDOT's Dixon Office and summarized in Table 4-12. The results reflect projected noise levels at the four designated receptors for existing conditions, design year build alternatives, and the design year "no-action" alternative. Deviations for different scenarios are given. Each receptor is also defined under "Location Description" by distance and direction from the roads of concern in this project.

Table 4-12
Predicted Noise levels for the Preferred Alternative
Milan Beltway Extension

Receptor	Number of Affected Sites	Noise Abatement Threshold Value (dBA)	Existing Year Predicted Noise (dBA)	Design Year No-Build Alternative (dBA)	Design Year Build Alternative (dBA)
RES1	8	67	57	59	62
RES2	6	67	59	62	62
COMM1	4	72	50	53	64
HOSP1	1	67	50	52	55

Source: Stanley Consultants

The results show that the greatest increase in noise levels will be at receptors COMM1 which corresponds to the Medical Arts Center and commercial buildings nearby. Current levels are calculated to be 50-53 dBA while design year levels increase to 64 dBA. The design year noise levels, however, are below FHWA noise abatement criteria levels. Noise levels at the residential receptor north of Blackhawk Road (RES2) are expected to decrease slightly due to the proposed highway modification. This is primarily due to the repositioning of the

roadways south of the present location. Noise levels at these sites are projected to also be below the abatement criteria for residential areas.

Air and Noise Modeling Locations, Figure 4-9

Air and Noise Modeling Locations
Figure 4-9

The receptors adjacent to Airport Road (RES1) should expect increases of 3-6 dBA with the Milan Beltway Extension as compared to a "no-action" alternative. The projected noise levels of 62 dBA for the year 2020 will remain below the abatement criteria of 67 dBA, for residential locations.

Illinois DOT guidelines require consideration of noise abatement whenever the design year noise levels exceed existing noise levels by more than 14 dBA or more. All modeled receptors are projected to have increased noise levels 14 dBA or less. Therefore, noise abatement measures are not required.

4.12 Special Waste

No CERCLIS sites will be involved or impacted by the build alternative as none were listed in U.S. EPA's February 4, 2003 listing of sites.

Previous environmental studies have included a Preacquisition Site Evaluation conducted in 1987, a Preliminary Environmental Site Assessment conducted by the Illinois State Geological Survey in 1993, a Preliminary Site Investigation conducted in 1994, and a Preliminary Environmental Site Assessment dated November 24, 2002. These assessments have concluded that the build alternative could involve sites potentially impacted with regulated substances. Further, it has been determined that not all of the sites can be avoided. The sites which cannot be avoided include the Kerr-McGee gas station, Adrian Carriers (LMI), and the borrow pond (landfill).

The entire Kerr-McGee gas station is proposed to be acquired. This gas station has had a leak from one of its underground storage tanks (UST) in the past and petroleum constituents have been identified in soils and groundwater under the gas station. The proposed alternative will include the removal of any abandoned USTs and the demolition of buildings. The nature and extent of the petroleum constituents within the areas of excavation are known and the areas of contamination, involving approximately 14 cubic meters (18 cubic yards), will be managed and disposed of in accordance with applicable federal and state laws and regulations and in a manner that will protect human health and the environment.

Parts of the Adrian Carriers parking lot are covered with oil. If this material needs to be removed, it will be re-tested to determine if it would be a waste that needs to be managed and disposed of in accordance with applicable federal and state laws and regulations and in a manner that will protect human health and the environment.

Approximately 17,270 cubic yards of material will be removed from the borrow pond by dredging. A floatation silt curtain will be utilized to prevent sediment from migrating out of the construction area of the pond. Two de-watering areas on both sides of the pond will be constructed by the contractor. The dredged material will be placed within these two areas until the material becomes stable enough to be loaded into trucks and disposed of in accordance with the policy (hazardous or special) for the removal and disposal of waste. Water from the de-watering sites will be directed back into the pond. Clean aggregate will replace the material dredged from the pond.

Approximately 1.2 hectares (2.97 acres) of this 32.37 hectares (80 acres) pond will be filled. Several species of water fowl and wading birds have been observed using the pond. There are no fish or macroinvertabrate data for the pond, though it is assumed that the pond has similar biological component to that of the adjacent Rock River. The proposed dredging and filling activities within the pond will be restrained to the area of construction by the use of siltation curtains. Impacts to the aquatic ecosystem and use by wildlife are considered to be minor and temporary.

Appendix C contains the April 2, 2002 Environmental Survey Request validation statement regarding project special waste..

4.13 Other Impacts

4.13.1 Visual Impacts

Construction of the proposed project will provide elevated views in all directions where none currently exist because of the elevated concept being proposed. Bridges over Airport Road, I-280 and the Rock River, and roadway segments elevated on fill will provide enhanced visibility of the project area by motorists using the facility. The elevated design also means the new facility will be highly visible from the surrounding area.

The width of the roadway, combined with the use of roadside barriers, results in views from the roadway which are primarily of the horizon rather than down at the foreground. This is particularly true where concrete barrier walls obstruct views from the bridges. The view of the Rock River will be of areas well up and downstream from the bridge. Northbound motorists will have an unobstructed view of the bluff above Blackhawk Road and the areas north of the river once they "top the rise" on the Rock River bridge. A similar vista of the southern line of bluffs and the areas south of the river will be available to southbound traffic. Views from the roadway are expected to be a positive feature of the proposed facility.

The view toward the facility will be dramatic. It will be one of the dominant features in the landscape and will represent a conspicuous change for motorists who regularly travel the Airport Road, I-280 and Blackhawk Road corridors. The primary roadway will be elevated on fill or on structures from south of Airport Road to the south bank of the Rock River. Fill heights will be 8.2 meters (27 ft) adjacent to Airport Road, 8.8 meters (29 ft) adjacent to I-280 and 7 meters (23 ft) on the south bank of the Rock River. The embankment at Airport Road slopes to the south down to existing grade on the existing beltway. The embankment ends at the south bank of the river. Businesses and residents along Airport Road west of the beltway will have their view to the east obstructed by the embankment. While a dominant feature, the roadway is not expected to be an unpleasant one. There will be an adjustment period for those familiar with the area.

Businesses located along 3rd Street, north of 52nd Avenue will have their view to the south and west blocked by 52nd Avenue. At this location, 52nd Avenue will be elevated on fill, and a bridge, 8 meters (26 ft) above existing grade where 52nd Avenue is elevated to cross the beltway.

The Department will provide adequate lighting on the Milan Beltway Extension without interfering with the pilot’s or air traffic controller’s views of the runways and other aircraft in the

vicinity of the airport. The Department will provide shielded light fixtures along the project ~~that may be shielded if necessary~~ to reduce glare, or other interference.

The right-of-way will be seeded and landscaped which will help soften the impact of the elevated portions of the roadway. The bridges will not have superstructures and will have clean, unobtrusive designs making them less conspicuous. Boaters on the Rock River and water skiing spectators at Ben Williamson Park will have unobstructed views of the Rock River bridge. This is not expected to be a negative experience.

South of the Rock River, persons using the bike trail around the borrow area and the area around the pond will have direct views of the facility where it crosses the borrow area. Bicyclists using the bikeway on the west side of the Rock River bridge will have an attractive view looking downstream out over the river and over the wooded floodplain.

4.13.2 Energy Inputs

The proposed improvement is expected to have a positive impact on energy consumption in the project area. Vehicles traveling to the Southpark area from the Milan area will save about one mile in travel distance. Speeds should increase on Airport Road and 52nd Avenue and congestion should diminish with a resultant improvement in fuel consumption.

Every vehicle that chooses to use the Milan Beltway will be doing so because it is either a more direct route or because it offers a savings in travel time. Travel time savings are a result of higher sustainable speeds and, particularly in an urban area, lack of deceleration-acceleration-idling times associated with intersections.

The use of access control and interchanges as proposed for the Milan Beltway greatly reduces travel time and hence fuel consumption when compared to an expressway design having at-grade intersections with signalization. All vehicular trips will benefit from the use of this facility.

4.13.3 Solid Waste

The project's contractor will be responsible for disposing of waste material generated by construction. The contractor will be required to comply with the Standard Specifications for Road and Bridge Construction, Section 201 - Clearing, Tree Removal, Hedge Removal and Section 202 - Roadway Excavation and all applicable federal and state environmental regulations. Solid wastes generated by structure demolition will be disposed of in a landfill approved by the Illinois EPA.

Care will be taken to prevent construction debris from entering drainageways. The contract documents will prohibit disposal of refuse into streams in accordance with Illinois Compiled Statutes. The contract documents will also include special provisions directed at implementation of archaeological clearance for contractor borrow, use, disposal, staging, and storage areas. Concrete waste may be disposed of by burial within the proposed right-of-way in conformance with IEPA regulations.

4.13.4 Bicycle Path

The 1996 Quad Cities bike plan did not contain any bicycle crossings to be located in the vicinity of the proposed Milan Beltway Extension. However, the Department received a request from the Quad Cities Riverfront Council requesting that a bicycle crossing over the Rock River be added to the proposed Milan Beltway bridge to facilitate a safe, separated bicycle crossing. Its location will serve the central portion of the Quad Cities. Existing roadway crossings such as I-74 and IL 92 are full freeways with no bicycle facilities and US 67 is a truss that is too narrow and can't be widened to carry a bicycle path. Therefore in the western two-thirds of the Quad Cities, this location offers the only immediately feasible location to construct a bicycle crossing of the Rock River.

Although the Department's policy states that bicycles will be accommodated on new construction projects, the construction of a fully access controlled freeway such as the Milan Beltway precludes, by policy, the full use of such a facility by bicycle traffic. Any bicyclists attempting to use the shoulders of such a roadway would be bicycling immediately adjacent to dense, high-speed urban freeway traffic. At either end of the Milan Beltway, the bicyclists would be deposited on high-speed, multi-lane roadways (John Deere Expressway, Airport Road or Milan Beltway). None of these facilities have bicycle paths that would keep the bicyclists separated from paralleling vehicular traffic.

Therefore, to maximize both bicyclists' safety and utilization of any bicycle facility proposed for construction, a separate bicycle structure is proposed to be built as part of the Milan Beltway Extension bridge over the Rock River. This will be built in a separate, adjacent bridge to meet Illinois DOT policy design for a bike path. It will be built on its own spans of beams set upon the same pier system as the bridge (not just affixed to the outside of the bridge) immediately on the downstream side of the highway bridge. Thus the mainline roadway cross-section will remain unaffected.

To maximize utilization and safety of bicycle traffic as separate and distinct from vehicular traffic, the southern approach of the bicycle bridge will be constructed to meet the existing levee system paralleling the south bank of the Rock River built as part of the Milan flood control system. To the east, the village of Milan has completed the initial step of constructing a bicycle path on top of this flood control levee to provide an east-west bicycle path that is completely separate from highway traffic. This path currently runs from 1.5 miles west of US 67 to Mill Creek. The construction of a bicycle span over Mill Creek in Milan (as part of the improvement to Airport Road) will allow the village of Milan to extend the bicycle path to ultimately connect with the bicycle path being built in conjunction with the Milan Beltway bridge. This levee bicycle path is the prime bicycle facility to be built in Milan, and its connection to this Rock River crossing will allow bicyclists to travel to the greater portion of the Illinois Quad Cities north of the Rock River.

At the north end of the bicycle bridge, the bicycle path will be brought down to existing ground adjacent to the fill of the Milan Beltway Extension at a point adjoining Ben Williamson Park (see Figure 4-2). This will be a temporary end to the path until it is extended by local agencies. Initially, the most feasible construction would be a short extension of this trail westerly into the park. The park could then serve as trail head for

bicyclists as well as providing bicycling possibilities within the park. Ultimately the local agencies could investigate connecting the Milan Beltway bicycle crossing to a possible east-west trail along the north edge of the floodplain forest that lines the north bank. Alternatively, a connection could be built to 52nd Avenue. This is a lower speed, lower volume east-west facility than the John Deere Expressway that serves as an alternative access to South Park Mall, a major generator, and to 27th Street, a north-south street into Moline.

Figure 2-5.1 shows the most recent (2001) Bi-State trails network..

4.14 Construction Permits

4.14.1 Air Quality

The primary potential impact on air quality from construction will be fugitive dust (particulates) resulting from soil exposed to wind and traffic. The quantity of fugitive dust from construction activities varies depending on the area of land being worked, the levels of activity, the soil silt content, the soil moisture, and wind speed. While the contribution of the proposed project to the total suspended particulates in the surrounding area will be small and of a short-term duration, the construction will generate fugitive dust that may be a nuisance in nearby areas.

In addition, construction vehicles will emit carbon monoxide, hydrocarbons, and oxides of nitrogen. Ambient air concentrations will not be significantly altered by operation of construction vehicles and machinery.

IDOT Standard Specifications for dust control will be employed as necessary to control fugitive dust during construction.

4.14.2 Noise

Trucks and machinery used for construction produce noise which may affect some land uses and activities during the construction period. Analysis of this project indicates that the following receptors will receive construction noise in varying degrees which may at times be noticeable:

Schools: None
Single-family residences: 27
Multiple-family residences: 0
Hospitals, nursing homes, office buildings, libraries: 1
Tracts of land for which serenity and quiet are very important: None
Commercial: 11
Industrial: 2

To minimize or eliminate the effect of construction noise on these receptors, the following provisions are included as Standard Specifications in Department construction contracts:

Definitions:

1. Adequate Muffler - An "adequate muffler" is equal to or quieter than the original muffler. If there has been no original muffler, a muffler should be one recommended by the engine manufacturer - not one recommended by a muffler manufacturer or a supply house.

2. In Constant Operation - The exhaust system should have no cutout, bypass, or similar device.

3. Properly Maintained - Small leaks between the engine exhaust and the muffler exhaust will cause a very large increase in noise.

Construction Noise Restrictions:

1. All engines and engine-driven equipment used for hauling or construction shall be equipped with an adequate muffler in constant operation and properly maintained to prevent excessive or unusual noise.

2. Construction within 305 meters (1,000 ft) of an occupied residence, motel, hospital, or similar receptor shall be confined to the period beginning at 7:00 a.m. and ending at 10:00 p.m. This time regulation shall not apply to sawing contraction joints, as required in Article 408.12 of the Illinois Standard Specifications, to maintenance or operation of safety and traffic control devices such as barricades, signs and lighting, or to construction of an emergency nature.

Exceptions: Any machine or device or part thereof which is regulated by or becomes regulated by federal or state of Illinois noise standards shall conform to those standards. Such equipment shall be operated as designated in 2. above.

Requests to modify or deviate from these requirements shall be submitted in writing by the Contractor and must be approved in writing by the Engineer.

4.14.3 Water Quality

Of the eight piers being built within the river banks, seven are in the river and one is on an island. The seven piers to be built in the river will permanently cover 135.1 square meters (162.4 square yards) of the river bottom. To build these piers, based on current construction practices, an area of 414.9 square meters (496.2 square yards) will be enclosed within seven cofferdams. This represents 0.006% of the bottom of the Rock River in Rock Island County, and thus the same percentage of river fauna could be expected to be lost due to entrapment within the cofferdams. The cofferdams and piers will be built off of temporary structures such as tramways, causeways, or anchored barges as chosen by the contractor to show this contract is awarded. Such structures will meet U.S. Army Corps of Engineers requirements to not create a backwater of over 150 mm (6 inches), and be built of material that does not leach dirt or loose sand into the river.

The cofferdams will be built by building the upstream and sides parallel to the flow first, with the downstream enclosure side completed last. This minimizes the entrapment of species within the cofferdam and offers the maximum period of escape time. The cofferdams will be

removed after construction. The steel sheet to build the cofferdam is constructed of 13 mm (0.5 inch) thick steel, whose thin cross-section thus minimizes siltation as it is driven into the river bed. There is no subsequent siltation or debris entering the river from pier construction, since all such material is contained within the cofferdam and removed prior to cofferdam disassembly.

The work within the Rock River should be completed within two construction seasons unless unusually high, long-duration levels of flooding occur in two consecutive years on the Rock River, which could force construction into a third year. During construction, all temporary structures and appurtenances will be built to maintain a 6.1 m (20 foot) to 15.2 m (50 foot) waterway opening that will be specified by the Corps of Engineers to the contractor as part of the Section 10 Navigation Act permit the contractor must obtain for construction, along with any construction requirements necessary to meet Corps requirements so as not to be a safety hazard. Reduced speeds and cautious navigation by boats at this location will be the only impact to river usage during construction. No interruption of commercial or recreational use of the river is therefore anticipated during construction. Upon completion, the 50 m (164.0 foot) span of the bridge will offer no impediment to commercial or recreational river usage.

An erosion control plan will be employed during construction to minimize runoff impacts from roadway construction near the river.

~~The necessary fill to be placed in the pond will be a stone or aggregate fill that will be dumped in the pond one truckload at a time until a stable embankment is in place at an elevation above the water level of the pond. This method of construction will thus raise the existing water level of the pond to create a higher final water elevation of the pond and will not discharge or pump out any water. Based on the percentage of the pond that will be filled, the level of water should be raised 0.3 to 0.5 m (1.0 to 1.5 feet), which is less than the lowest surrounding dirt elevation. Thus the pond water will be initially raised but still contained in the surrounding banks before evaporating or lowering back down to its equilibrium elevation. This is similar to action in the pond when it is overloaded with water from flooding of the Rock River and thus not an unusual or unique event.~~

The Work in the borrow pond is described in Section 4.12 (Special Waste).

~~The water in the pond was found to have low enough levels of contaminants that the Illinois EPA, in a letter dated January 31, 1995 stated that the project could proceed to construction without any further testing for contaminants being required (Appendix C).~~

Water quality in Case Creek, south of the Rock River, will be minimally impacted by installation of a new structure at the Airport Road crossing. Impacts from erosion during construction will be minor and short term.

The intermittent drainageway north of the Rock River will be relocated from the east to the west side of the Milan Beltway Project because of culvert design constraints at the 52nd Avenue interchange. Water emanating from this drainageway and discharging into the Rock River will be of relatively low quality during construction but is considered of little real consequence to either the water quality of the Rock River or the drainageway itself.

No impacts are expected on groundwater resources..

4.14.4 Temporary Access Provisions

The primary negative economic construction impact is the disruption of access to the businesses which are adjacent to Airport Road, Blackhawk Road, and 3rd Street as reconstruction is undertaken. Reconstruction can cause increased difficulty in reaching adjacent businesses dependent upon access from the primary roads or from intersecting roads.

The Department of Transportation will keep at least one point of access open to adjacent businesses as permitted by construction activities. For example, local traffic will be able to use Airport Road through staged construction. Traffic will be maintained on Blackhawk Road/John Deere Expressway with 7th Street and 52nd Avenue serving as access to the 3rd Street medical/dental complex..

4.14.5 Utility Services

Existing facilities will be maintained if they do not interfere with proposed construction. If utilities have to be moved, service will be maintained to individual buildings. Short-term interruptions in service may be necessary for "switch-overs" but these will be kept to a minimum.

4.14.6 Temporary construction Cranes

The FAA has determined that construction cranes will not be a hazard to air navigation as long as they do not exceed 25 meters (83 feet) in height (See Appendix E~~, page E-25)~~.

4.15 Impacts on the Airport

The Metropolitan Airport Authority has extended the east-west runway to within 670 meters (2,200 ft) of the Milan Beltway. In order to protect certain areas near the runway the IDOT coordinated efforts to ensure that the proposed project would not be a hazard to air navigation. Appendix E contains a record of coordination activities. In summary the IDOT has agreed to:

- Invite Quad City International Airport and FAA representatives to all construction planning, preconstruction and/or construction meetings regarding any impact upon air traffic flow.
- Ensure that grading will not impact the Runway 9 glide slope.
- Comply with FAA's runway protection zone and airport object clearing policy.
- Meet current policy for land use within the runway protection zone for Runway 9. No signs, light poles, or other associated facilities will be located in the zone.
- Not interfere with the approach light for Runway 9's medium intensity approach lighting system.
- Build no ditches in the extended object free area for Runway 9.
- This project will require the acquisition by the Illinois Department of Transportation of 5.8 hectares (14.38 acres) from the Quad City International Airport.

- Request that the Quad City International Airport obtain a release from federal obligations from the Federal Aviation Administration for land that the airport wishes to sell at fair market value to the Illinois Department of Transportation.
- The Illinois Department of Transportation will take no actions that would result in a change to the Quad City International Airport Layout Plan without the approval of the Federal Aviation Administration.
- No trees will be planted by the Illinois Department of Transportation south of Airport Road so as not to be a possible future hazard to aviation.
- The wetland mitigation site north of Airport Road will not be excavated so as to create open water. any acreage of standing water, emergent-vegetation type of wetland.